Manitoba Medical Review

Vol. 30 **NOVEMBER, 1950** **No. 9**

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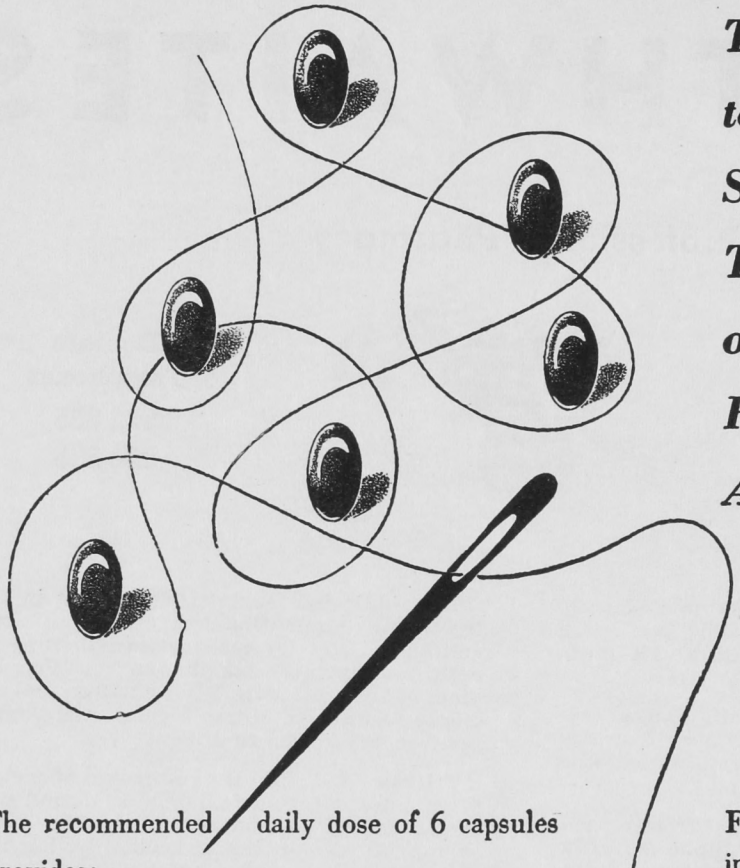

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The Manitoba Medical Review

Vol. 30 NOVEMBER, 1950 No. 9

Presidential Address

Delivered at the Annual Meeting of the Manitoba Medical Association, October, 4th, 1950, by Dr. Donald L. Scott

Prepaid Medical Care

In order to bring my ideas of prepaid medical care to a reasonable conclusion I will need to take your thoughts back a few years to the 1930's and before.

I wish it to be clearly understood that what follows are impressions and conclusions of my own, formed from personal observation and study of earlier minutes of the meetings of the Manitoba Medical Association. Many of you are more hard-headed than I am and therefore if you wish to label this article as fantastic you are perfectly at liberty to do so.

Prior to 1930 Canada was almost entirely a free enterprise country. Canadian Medicine was also. There were a few exceptions, such as Department of Health officials, mental hospitals, sanatoria, and infectious disease hospitals. These employed full time medical officers, most of whom were poorly paid, but it was recognized that governments were responsible for this much of the public health, and there has never been any serious quarrel with the government over the control of infectious diseases. Socialism and communism, of course, were well known in other countries and there were many advocates of these "isms" here who were asking for government control with equal rights and privileges for all, regardless of effort.

Then came the great depression of the 1930's. To many of you this is pure reiteration and forms a bad memory. To you younger practitioners who are obviously doing so well at present a few remarks about those times may be deemed advantageous. For some reason, at that time the world lost its reason and economic conditions became so severe that thousands of otherwise independent people and families became dependent on the State for their very existence, which meant rent, clothing, food—indeed, every commodity necessary to life. Medical care was no stranger to these conditions. Medicine continued to be practised as before but by 1932 the burden of looking after this new army of relief recipients with no means of payment became too great. These people were still the doctors' private practice but they could not pay. Therefore, in the face of diminishing returns from private practice and of ever-increasing numbers going on relief the medical profession could soon see themselves on relief or government dole also.

The Winnipeg Medical Society and the Manitoba Medical Association appointed a joint committee to review this in November, 1932. Dr. Moorhead, who deserves great credit for the part he took in this negotiation and later in the planning of other medical care plans, was the chairman. In February, 1934, the first of these agreements was concluded with the City of Winnipeg and later spread to surrounding municipalities and, to some extent, to rural Manitoba. This, although not generally recognized at the time, was the first time this form of socialized medicine had been put into effect in Manitoba. But what a plan! Free choice of doctor, one of the first precepts of Canadian Medicine, was maintained but everything else went by the boards. The payment was by fee for service but the fees so reduced that I am sure you will enjoy hearing of some of them. Office call $1.00, hospital call 75c, maternity cases $20.00 in the home and $10.00 in the hospital. No operative fee was to exceed $50.00 and permission for operation must be granted by an Advisory Board except in cases of emergency. The monthly maximum received by any one doctor was not to exceed $100.00.

These, then, are just a few of the regulations and conditions under which many of our practitioners laboured during the depression. Looking back on this period one realizes what an opportunity was missed by the socialists to force the government into some form of State medical care. If that had occurred one shudders to think of what could have happened to a form of Medicine born during a depression with the relief agreement as a precedent. I presume that all the would-be planners of our economy were so busy looking after themselves that no thought was given to these possibilities. It is true also that the Federal Government was approached for financial assistance and asked to help in this medical or health emergency. They felt at the time that they were sorry for the medical man but they had no funds for this purpose and therefore relief recipients who became ill would continue to be a charge on the municipality or on the over-worked doctor. It is possible—in fact, I am sure—that this experience made lasting impressions on many people so that they continued to think about medical care. Some in government circles turned their thoughts to government control. Medical men turned their thoughts away from government control but for a

time at least were unable to clarify their thinking enough to accurately define what was needed. This has not been done satisfactorily even yet. Most doctors knew that some plan must eventually be devised to relieve the majority of people of the ever-rising costs of medical care, especially those cases of catastrophic illness—e.g., major surgery and prolonged medical cases where hospital costs, doctors' bills, and lost time proved to be unendurable. In the minds of many people these costs were all added together and in the confusion were attributed to the doctor's bill. Slowly but surely the local and Federal governments became more and more interested in health care although it had not as yet become part of the policy of any party at that time.

As we gradually recovered our economic stability and work became again an almost daily habit, the need for relief agreements decreased, although the agreements were not definitely cancelled for some years. This was the state of the practice of Medicine in the late 1930's. We had just endured a form of socialized care for those on relief with all its paper forms, restrictions, and rules so irritating to many of us.

As you all know, for many years there have been small groups and clubs that in some manner or another have retained the services of a doctor or group of doctors. This state of affairs has not been actively opposed by the medical profession although it violates one of the first principles of Canadian Medicine, which states that the patient shall have free choice of doctor—a very democratic principle.

Keeping all the foregoing in mind, one is not surprised to find this principle upheld when the Firefighters Club of Winnipeg approached the Manitoba Medical Association in 1939 for some plan whereby the ills of the firefighters and their families could be taken care of in a manner similar to the Manitoba Hospital Service Association and Blue Cross by prepayment. Dr. Moorhead again came forward with his committee. The difficulty here was mostly one of predicting the cost to each individual or family. Endless correspondence and meetings were needed to arrive at a workable agreement, because this type of medicine had never been practised here before. This was finally ironed out and the firefighters scheme launched. During the first year, as was predicted, there was a shortage of money, but at the end of the third year the committee on economics was happy to report the plan paid its way after paying medical and administrative costs, the latter being reported as less than 10%—an unusually low figure. This was the first prepaid medical care plan to be launched successfully in Manitoba at very low cost and without government intervention, taxation, or rules and regulations. This latter formed the basis for the Manitoba Medical Service, which I will discuss shortly.

This brings us to the year 1941, the second year of the Second World War. At the beginning of the war Canada was horrified to hear of the numbers of men being rejected from service because of disability. This, of course, made a lasting impression in some circles and a study, indeed, many studies of health conditions were made. The rejections from the armed forces were blamed directly on the inability, financial and otherwise, of many people to obtain medical care. The government and the medical profession were finally held responsible for this and consequently prepared to study it.

We have seen the indigent cared for by government dole. We have seen clubs and groups that hire their medical care but lose the opportunity to seek aid where they wish except at extra cost. We have seen a group of citizens paying into a central fund while well and having their medical and surgical expenses removed from this fund when ill and they still retained the right to go to the doctor of their own choice. Three years of experience with such a plan had shown us that this form of medical care could be successful and it solved the problem of costs for the unexpected costly illness. To make a plan such as this work we all acknowledge that there must be honesty and sincerity on all sides—patients, doctors, and administration. We would not be human if there were not differences of opinion, but these usually can be ironed out by consultation.

During the first two years of the war a great deal of planning was done by the Federal Government, and during the Annual Meeting of the Canadian Medical Association in Winnipeg in 1941 a rumour was circulated that the Deputy Minister of Health in Ottawa was preparing a Health Insurance bill to be presented to Parliament at the next session. No consultation had been held with the Canadian Medical Association until that time. The President and Executive were immediately in touch with Ottawa and from then on were allowed to confer with the Minister and his advisors on the National Health Insurance scheme. You can see from this how far some form of government intervention in the practice of Medicine in Canada had progressed even as early as 1941.

A few months prior to this the Executive of the Manitoba Medical Association was informed that some groups of citizens in Winnipeg were interested in the firefighters plan of prepaid medical care. In April, 1941, the committee on economics was asked to study ways and means of providing prepaid medical care to groups of employed persons in Greater Winnipeg. One must here point out that Greater Winnipeg was chosen to start with, because at the outset it was realized

that without tremendous financial backing a plan such as this could not survive except by selling contracts to employed groups.

Needless to say, a great deal of work was done and many meetings were held. After obtaining information about other plans all over the continent and studying these in co-operation with these public groups the committee in November, 1941, submitted to the executive of the Manitoba Medical Association two plans for medical care, one an incomplete service and the other complete, to be sold by contract to groups of employees under a certain income level.

The plans were then submitted to a meeting of the profession in Greater Winnipeg and received their approval. There is no need to go into further detail here. It is sufficient now to say that here in the hands of the profession of Manitoba apparently lay a plan incorporated in the Provincial Legislature, approved by the majority of the Association, and eagerly looked for by Mr. Average Citizen; a plan run by the medical profession and interested public spirited citizens with no government control and no taxes. It was felt that this method of individual prepayment was best because taxes tend to be hidden and many people think they are getting something for nothing, and so the service loses its value in their minds. This, then, was our answer to government control. Naturally, the rural medical men were not very much interested at first; some are not interested yet. To these one might say: "Look about you, read about government doings, and do not sit back thinking—it will not happen to me."

Manitoba Medical Service has been a success but can only continue to be a success because of the backing and loyalty of the members of the Manitoba Medical Association. Government intervention with government control is still a very great possibility. Indeed, we probably would have National Health Insurance now had the Government had the opportunity to put it over. If we as members of the Manitoba Medical Association back this plan whole-heartedly it cannot help but succeed and could easily form the framework for Manitoba's part of a prepaid medical care plan for Canada. In the opinion of your Executive and of many of the clear thinkers among the profession throughout Manitoba this is the solution to enable us to maintain as nearly as possible our present patient-doctor relationship.

This does not mean that we are all against government intervention in supplying medical services. Some of us think that the present government plan of supplying facilities for the use of practising physicians in Rural Manitoba and spreading the costs among the population involved is a forward step. We are, of course, in definite opposition to a complete government medical care programme, just as we would be if the government proposed to take over the issuing of commodities, such as, shoes, groceries, rentals, etc. In my opinion, there is no difference. If this occurs it will be the biggest step ever taken in this country towards the loss of freedom of all our people, our communities, and also the medical profession.

Recently the Manitoba Medical Service has begun to sell individual contracts at a slight increase in premium. This increase is necessary because of administration costs, but with increasing numbers of contracts sold premiums can eventually be lowered.

Now, what is required for continued success and what can cause the Manitoba Medical Service to fail? First, co-operation and wholehearted support from medical men and public. A complete service in Manitoba with subsidy of the indigent and near-indigent should be our goal. Manitoba Medical Service, however, can fail because of lack of support and because of antagonism. It can also fail because of medical men, and there are some, who feel that this service opens up to them a way of getting a big slice of this pie that is our livelihood. Extra bills, false statements, piling on services—all these unnecessary and fraudulent moves rebound on the profession individually and as a whole, losing us the respect and admiration that our forbears gained by dint of faithful honest work.

SURGERY

Melanomata*

Arthur H. Wells, M.D.

Pathologist, St. Luke's Hospital, Duluth, Minn.

"The subject of melanomata has been intriguing physicians since the time of Hippocrates. It has been shrouded in a great deal of mystery. I suppose there is no subject in the whole field of oncology in which there has been so much argument and disagreement. However, for practical purposes, within the last two decades, facts have been developed which are necessary for the proper care of the patient with a melanoma. The argument now rests mainly in the academic field. We'll have to briefly touch on some of those arguments to have a fair picture of the subject.

Now, this is a kodaslide of a silver stain of the skin, in a case of Addison's disease. I show it to you because the small dark cells along the bottom there, in the basal layer of the epidermis, are the melanocytes. These are the cells that give rise to melanomata. There have been many arguments in the past, but the principal authorities now agree that the melanocyte is the precursor of the melanoma. With a different stain, hemotoxylin and eosin, we see large clear cells in the epidermis, which are the same cells, melanocytes. I simply put this slide on to show you some illustration of the main proofs that these cells have an origin in the epidermis. Now, this is an argumented point. There are two principal theories concerning the origin of melanomata; one is that they come from the nerve cells, the other is that they come from the epidermis. Any pathologist, however, who has studied many of these under the microscope, will see this phenomenon frequently. We see here a group of four cells, within a circle of their own fused cytoplasm. The margins of the cytoplasm have the prickles of the original epithelial cells. One can see repeatedly the same transition from an epithelial cell into these melanoblasts, with the remaining cytoplasm connected with the adjacent epithelial cells by the original prickles normally occurring between squamous epithelial cells. The fact that this occurs repeatedly in cases of melanomata, proves to me that the melanomatous cells are a very close relative of the epithelial cells. This point is not of great importance from a practical viewpoint. Here is another slide in which a large group of epithelial cells are transforming into melanoblasts. This is another melanoma. We have here a diagram showing how the melanocyte can grow directly into a melanoma or by way of a junction nevus into a melanoma.

Diagram I

Melanocyte

Junction nevus — Melanoma

This transition into a malignancy always occurs in the plane of the basal layer of the epidermis, so that if the biopsy is no deeper than the epidermis, one then can make the diagnosis of melanoma. This has several practical points from the pathologists's viewpoint, which we will not go into, but we will say that the transition occurs right in this area at the bottom of the epidermis in practically all cases.

Now, I'll more or less briefly review the neoplasms of the epidermis, so as to have a rather broad viewpoint here.

Table I

NEOPLASMS OF EPIDERMIS

CELLS	BENIGN	MALIGNANT
Basal Cell	Benign Epithelioma	Basal Cell Carcinoma
Epidermal Cells	1. Keratosis 2. Papilloma	Epidermoid Carcinoma
Melanocytes	Pigmented Nevus	Melano-Carcinoma

They are the basal cells which will give rise to senile verruca, or benign epithelioma, a very common lesion, which never becomes malignant. And in that same group is the basal-cell carcinoma, which never metastasizes. This cancer is to be compared with a malignancy from the melanocyte, the melanoma, which is the most malignant tumor known, and doesn't spare any organ. The melanocyte is also the parent of the pigmented nevus. In between these two extremes of malignancy of epidermal cells, are the tumors which develop from all the cells in the epidermis. The benign representatives are keratoses and papillomata, and the malignant lesion is the squamous-cell carcinoma. The squamous-cell carcinoma generally metastasizes locally, and it seldom extends throughout the body. So it is an intermediate type of malignancy of the epidermis as a whole.

To talk about melanomata, one must discuss nevi and so, briefly, I'd like to present a simple classification of nevi.

Table II

CLASSIFICATION OF NEVI

Histologic:	Clinical:
1. Junction Nevus	1. N. Spilus-macular
2. Intradermal Nevus	2. N. Verrucosus-warty
3. Compound Nevus	3. N. Pilosus-hairy
4. Juvenile Melanoma	4. Papillomatous-pap.
5. Blue Nevus	5. N. Lipomatodes-fatty
	6. Blue Nevus

It simulates other tumors of the body, so it is generally classified as a neoplasm. It is possibly the most common tumor in the body. This classification is the one of Arthur Allan of the Memorial Hospital in New York. It is very simple but very practical. This kodaslide has a lesion in which the nevus cells, melanocytes, are distributed in the

*Presented at the Sectional Meeting of the American College of Surgeons, Winnipeg, Man., April 3rd, 1950.

epidermis and is called a junction nevus. These lesions are rather sharply demarcated and generally heavily pigmented, smooth surfaced, and free of hairs. It is a dangerous lesion. It's the one that goes into malignancy most frequently.

This slide has a junction nevus on the knee. This one is slightly raised, and looks a little more dangerous. Now, here is a photomicrograph of a nevus where large groups of cells you see are in the dermis. There are a few scattered up in the epidermis. One must call this a compound nevus. If there were no nevus cells in the epidermis, then this would be an intradermal nevus. Now, these are the three nevi of importance from a histologic viewpoint. The compound nevus and the junction nevus are the two that give rise to melanomata. The intradermal nevi practically never give rise to melanomata. The juvenile melanoma is put in this classification because it has a very excellent prognosis and very rarely metastasizes. Yet its histology is that of the melanoma of an adult.

Here is a little hairy nevus in this child. Here is a bathing trunk nevus of a child; it seldom gives rise to a malignancy. Here is a dangerous type of a nevus under the nail, sub-ungual. The blue nevus is classified with the other nevi primarily for clinical purposes. It appears that this lesion has its origin from nerve cells, and not from the epidermis, and it rarely if ever gives rise to a a malignancy. So, although it looks a good deal like a melanoma, and should always be excised, it still is a benign nevus and is not dangerous. The clinical differentiation of nevi are listed here. (See Table II). The macular type is the smooth junction nevus; then there is a warty type, the verrucus nevus, a hairy type, papillary type, fatty type, and the blue nevus.

We will show a series of a few lesions that are not pigmented nevi. This nevus unicus lateralis appears in most instances to follow nerve distribution; it has no nevus cells in it, and it never gives rise to melanoma, but it does sometimes give rise to squamous-cell carcinoma, and basal-cell carcinoma, and should be excised. Here is a brown cafe-au-lait spot of Von Recklinghausen's disease, and is not due to nevi cells. It is simply a hyperpigmentation of the basal layer of the epidermis and never gives rise to melanoma. Here is a lesion, acanthosis nigercans, that often appears in the axillary area, sometimes on the nape, sometimes between the thighs and elsewhere. When it appears in adults, it is a good sign of an internal carcinoma, most often in the stomach or abdomen, and it is often even an indication for a laparotomy, if you can't demonstrate malignancy by other means. It never gives rise to melanoma, and it is not due to pigmented nevus cells. In children, this lesion doesn't have the same diagnostic significance.

The etiologic factors concerning melanomata are nevi, endocrine, age, skin-color and trauma.

Table III
ETIOLOGICAL FACTORS
Nevi

Endocrine: (50-80%)
(a) prepubertal
(b) adolescent
(c) pregnancy

Age
Increased number every year of life

Skin Color
Negroes 1/3 the incidence of whites

Trauma
Bruises, cuts, scratches, rubbing, picking, etc.

From 50 to 80% of the melanomata have their origin in nevi. The endocrine factor is very apparent in these three groups of patients. Melanomata in the pre-pubertal age are very rare, whereas in adolescence and pregnancy, there is an increase in frequency, and a considerable increase in the malignancy of melanomata; seemingly, hormones have something to do with this. Very few people are cured of melanomata which develop during pregnancy. Age is a distinct factor. As Dr. Warwick pointed out, melanomata follows the general plan. Whenever there is an increase in age, there is an increase in melanomata for that age group. The greatest numbers of people with melanomata are between the third and seventh decade, simply because there are more people living during that period with melanomata.

Skin-color is a definite factor. The frequency of melanomata in negroes is only 1/3 of that in the white race. Negroes more frequently have their lesions in their mucous membranes, in their palms and soles, and in the rather colorless areas. In white people, the lesions tend to be most frequent in the blond group or those of sandy complexion. These skins may have sensitivity to sunlight. Trauma is mentioned by practically all of the authorities as an important factor in melanomata, and I think it is stressed too greatly; in fact it has many physicians completely cowed to the point where they are afraid to touch a dark or blue lesion on the skin. Now, in the last month I've written to three of the outstanding authorities in the U.S.A., Dr. George Pack, Dr. Wm. Becker and Dr. Arthur Allan, at the Memorial Hospital. Neither one of those men have seen a single case where a benign nevus has been treated by a physician which later became malignant. That is, there has been no scientific proof that a nevus has become malignant following treatment. The so-called nevi have been mistreated melanomata to begin with. However, trauma may have something to do with the development of melanomata. Until it is proved otherwise, we have to regulate our therapy and prophylaxis accordingly. At this stage, I should point out that in a group of 162 cases reported from the Presbyterian Hospital in New York, there were 25% of these cases which

were considered mistreated by physicians in that area. The theory expressed was that the lesions were nevi to begin with, they were incompletely removed, or treated otherwise, and recurred as melanomata. The importance of microscopic study of all excised pigmented lesions is obvious.

The anatomic distribution of melanoma will be dealt with briefly.

Table IV

ANATOMIC DISTRIBUTION—MELANOMA

General Location (1,383 cases):		Specific Sites (851 cases):	
Head and Neck	28.8%	Toe Nails	2.2%
Trunk	22.2%	Finger Nails	1.2%
Upper Extrem.	14.0%	Vulva and Vagina	3.6%
Lower Extrem.	31.4%	Oro-Nasal	2.6%
No Primary	3.9%	Rectum Anus	1.5%
		Male Genitalia	0.4%

*Eye—Approximately 20%. **Meninges—Very rare.
***Internal Organs—Rare if ever.
*4, 1, 7, 11, 14, 15, 19, 40, **28, ***19.

The head, neck and trunk are very common sites of both melanomata and nevi. The upper and lower extremities are less common sites. You'll see there's a fairly high percentage of melanomata, the origin of which cannot be made out. They are very likely primary in the skin, and yet the exact origin cannot be determined, mainly because the primary lesion is so insignificant. It's a very difficult clinical problem in some instances to make the diagnosis of a primary. In the second column of Table IV are sites of melanomata with a small percentage. You'll see that from 1 to 4% will occur on the toenails or fingernails, on the vulva, on the male genitalia, about the rectum, or about the mouth and nose. Melanomata of the eyes occur 1/5 as often as compared with melanomata of the skin. We'll not talk about melanomata of the eye, though. It is a large subject in itself. Melanomata of the meninges are very rare. There are only a very few in the literature. Internal organs probably may never be the site of primary melanomata. That's a disputed point. You can easily see if 3% or 4% of the melanomata are such that you can't determine the primary origin, it might well be that the primary might be in the skin and you might suspect a large isolated metastasis in an internal organ.

I'll be brief with some of the points on pathology. The gross appearance of the melanoma in many instances, is very typical. Here is one in the genital area; here is one on the bridge of the nose; here is a non-pigmented melanomata in a similar area, which might be completely overlooked from the possibility of melanoma. Here is one that illustrates a melanoma beginning in a small area of a large nevus. It had been present for many years, when a raised smooth area gradually grew in that spot. The rest of the nevus is probably benign. Here is one raised pigmented area on the thumb, a vicious melanoma. A fair percentage of melanomata are amelanotic, so that the diagnosis might well be missed from a clinical viewpoint.

There are several points in the histologic study of melanomata that bear mentioning. First of all, the histologic grading of melanomata is entirely possible, using the grade i to iv Brodeis classification, but it probably has no practical importance in the study of melanomata from therapeutic or prognostic viewpoints. This is in contrast to melanomata of the eye, in which there is a direct relation of histologic grading to prognosis. The difference is as great as from 5 to 75% in five-year cures, in the different grades. The juvenile melanoma looks very much like the melanomata of the adult, in fact it probably can't be differentiated, so the age of the patient with a lesion is of great significance to the pathologist. He's liable to send back the diagnosis of melanoma, not realizing that it is a juvenile melanoma and relatively benign. The carcinoma and sarcomatous appearances of melanomata have been a stumbling-block in the classification of melanomata for a long time. I think the histo-pathologists now pretty well agree that these are all carcinomas. Variation of opinion ranging from benign to malignant is not unusual in the very early cases. The diagnosis should not depend on a single pathologist, but the slide should be sent around to various pathologists, in some instances. It's well known that some melanomata are metastasized before removal, and yet the histology is that of a benign appearing lesion.

Metastases: here is a picture of a bluish pigmented scar that we too often see at the morgue table. This particular case is that of a very prominent man, who was fiddled around with, with some salves, cautery and incomplete excision, for several months, without anyone realizing that the first step is histologic diagnosis. Precious time is lost before the proper radical therapy is instituted. Here is a picture of melanoma metastasis in the liver with perfectly amelanotic metastasis mixed with very black metastases, and all intervening grades of pigmentation. The subject of melanoma of the eye, as I said before, will not be taken up. It's a separate topic, not too closely related to melanoma of the skin. A melanoma of the meninges is seen in this picture. Here's an interesting lesion that I've copied from a Reese's paper on pre-cancerous melanosis of the conjunctiva. This lesion occurs between the ages of 40 and 50. In its early stages, it is curable by x-ray therapy. You can see the black pigmentation of the conjunctiva which is perfectly smooth; it varies in amount in different cases. If it isn't cured by x-ray, it will develop into a malignancy within the next five years. This malignancy frequently is not associated with any tumefaction. This melanoma doesn't respond to x-ray.

We'll briefly go through the subject of prophylaxis of melanomata.

Table V

PROPHYLAXIS

I. Excise and Examine Microscopically the following "Nevi":
1. Feet.
2. Hands.
3. Subungual.
4. Genitals.
5. Genitals.
6. Sites irritation.
7. All darkly pigmented nevi of childhood.
7. With alteration in size, color, elevation, ulceration, inflammation, scaling, bleeding, crusting, tenderness, itching and increased vascularity.
8. All gray blue, blue black and black nevi.
9. Nevi appearing — adult.

II. Conservative therapy of Nevi only — biopsy.

It is agreed by all authorities that nevi occurring on the feet, hands, under the nails and on the genitals should come off. These are most frequently junction nevi. The frequency of melanomata in those areas is such that they should be removed, and always examined microscopically because you can't tell when they are melanomata. The authorities can't tell, men such as George Park who has now seen a thousand cases insists on a biopsy of all nevi removed. There is fairly general agreement that all nevi located at sites of irritation, such as under belts, collars, brassieres and on shoulders, or areas subject to repeated irritation, should be removed. Whether it is common as an important factor, one cannot be absolutely sure about, but there is no need of taking a chance. All darkly pigmented nevi in childhood should come off. There is no question about the removal of any nevus which shows alteration in size, color, elevation, ulceration, inflammation, scaling, bleeding, crusting, tenderness, itching, or increased vascularity. As a matter of fact, practically any change in the nevus is an indication for immediate removal and microscopic study. All the grey-blue, blue-black and black so-called nevi should be removed. Some authorities feel that nevi appearing in adult life should be removed because they are somewhat more likely to give rise to melanomata. Conservative therapy of the nevi should never take place without a biopsy. By conservative therapy, I mean primarily, electric cauterization about the face for cosmetic purposes; this type of therapy is perfectly all right. It is used extremely widely by the dermatologists, and probably to some extent by surgeons. It leaves a minimal scar on the face. Dr. William Becker of Chicago, feels that it is not necessary to destroy all the nevus cells, as long as you take a biopsy and prove that there's no malignancy present. Whether he's right we don't know, but you should never do a minimal treatment of a nevus without taking a biopsy.

Table VI

THERAPEUTIC PRINCIPLES

1. Wide resection.
2. Excision regional lymph nodes and dissection in continuity where practical.
3. With node metastases:
   (a) Amputate extremity and excise proximal lymphatics if dissection in continuity is not practical.
   (b) Alternative — quarterectomy.
4. Cosmetic and functional restoration secondary to eradication.
5. Lesions for special consideration:
   (a) genitals,
   (b) midline,
   (c) isolated metastases,
   (d) eye.

In discussing the therapeutic principles of melanoma, we might start out with the usual case in which there is a heavily pigmented nevus excised in the doctor's office and sent in. Melanoma is diagnosed histologically. The patient is immediately brought into the hospital and a much wider excision is done. If the lesion is in close proximity to a group of lymph nodes, then one can do, as George Park, a dissection continuity. One of the principles in connection with melanomata is that the melanoma may extend retrograde in lymphatics, so that you have to go backwards as well as forwards in the dissection. Dissection in continuity can be carried out for lesions above the knees and elbows and within a reasonable distance of the local lymph nodes. The nodes are dissected with these lesions. In cases of melanomata beyond the knees and elbows a wide resection and complete removal of the lymph nodes is carried out. If there are any metastases in the nodes, then an amputation is indicated.

The other alternative is that of a quarterectomy. The last report was that there were 50 quarterectomies in the upper extremity at the Memorial Hospital, and they favor that type of an operation. Now, there are not sufficient numbers of cases to compare the results of a more extensive operation with that of a simple amputation. Five-year cure rates have improved 600 per cent by using radical therapy rather than simple excision at the Memorial Hospital, New York. The basic principle then, in the treatment of melanomata is that cosmetic and functional restoration is entirely secondary to that of eradication. There are special lesions that should be taken up very briefly. Those on the genitals are nearly always malignant, and nearly always fatal, and consequently require a complete vulvectomy and resection of lymph nodes in the groin. A lesion about the umbilicus might extend in four or five different directions. One must resect the umbilicus and the round ligament. What you would do about the nodes in the axilla would be a question, because the lesion can extend in any direction. If the lesion is in the mid-line elsewhere one would consider a resection of the nodes in both axillae or both inguinal areas. The resection of isolated metastases could be valuable in some cases of melanomata. There have been a number of cases in which a metastasis has been removed and the patient has still lived another five years or so. It may well be that life was prolonged.

The prognosis is very poor. In the group of cases at the Memorial Hospital, there is only about 15% five-year survival, in those cases with metastases, and 18% survival in those without metastases. I should mention the article by DeWeese, reporting 62 deaths from melanomata, 15% of those patients died in the second five-year period. This is a tumor similar to carcinoma of the breast, in which the expectation is considerably different from that of carcinoma of the stomach, so that those five-year cures are not the whole story.

In brief summary, melanomata and nevi arise from melanocytes; melanocytes are epidermal cells primarily located in the basal layer of the epidermis. Etiologic factors include nevi, trauma, hormones, color of skin, and age. Certain nevi should be removed prophylactically, others need not be treated. The key to both prophylactic treatment and melanoma therapy is microscopic diagnosis. Radical therapy is thus guided to produce the best results in a condition of the greatest gravity.

For those interested in review of the topic "Melanomata and Nevi," I will be delighted to furnish an illustrated reprint from the May issue of Minnesota Medicine.

MEDICINE

The Sedimentation Rate

Paul T. Green, M.D.

Asst. Chief of Laboratory Services, Deer Lodge Hospital, D.V.A.

The Erythrocyte Sedimentation Rate ("Sed." Rate, E.S.R., B.S.R.) is a useful procedure in clinical medicine. It had been known since the time of Hippocrates that red cells tend to settle out rapidly in certain bloods before the blood clots, but this observation was not used to any extent until after 1921, when Farhaeus pointed out that if blood was prevented from clotting, the rate of fall of the red cells in this blood differed considerably in various diseases, and suggested its use as a test for pregnancy.[1] Since then, his observations have been extended and the procedure has become a common clinical test[2, 3, 4].

Mechanism

The mechanism of the Sedimentation Rate is not clearly understood, and it would be of little use to launch into an elaborate discussion of the problem. However some of the known factors will be briefly mentioned:

Proteins: Increase in fibrinogen increases the E.S.R.[5, 6], and 0.2 gm% added increases the rate by about 300%. One fibrinogen fraction is said to be particularly active in this respect ("contractinogen")[9].

Globulins also tend to increase the rate; whereas albumin inhibits the settling of the red cells. However it has not been possible to formulate the sedimentation rate in terms of plasma proteins alone[7, 8].

Lipids: Lecithin decreases and cholesterol increases the rate but the effects are too slight to make a significant change over the clinically encountered variations in these substances.

Sugar: Negligible effect.

Red Cell Factors: The role of the red cells themselves in the E.S.R. has not been generally considered, as most attention has been paid to the plasma. Hirschboeck, however,[9] feels that there is a red cell factor in sedimentation that varies in disease.

Red Cell Number: As a rule the fewer the red cells the faster the rate of fall, but it is not worth while correcting for "anemia" per se, and actually anemia has negligible effect[10]. In blood loss anemia there is little change in E.S.R.[11]. The size of the red cells is not of significance in sedimentation. Agglutination of red cells increases the E.S.R. and if substances such as cold agglutinins are present this will accelerate the rate.

Fever: Fever, per se, has no effect. Artificial fever therapy does not change the rate[12].

Anticoagulants: By dilution and change in red cell volume these may have minor effects.[13] Rates are slower in heparinised, than in oxalated, blood[14]. Fluoride, however, inhibits sedimentation rate almost completely and cannot be used for this test[15].

Length of Tube: (in which test is done)—is important, but if the tube is over 100 mm long there is no effect on the usual 1-hour fall. Shorter tubes, of course, will impede the fall.

Diameter of Tube: If over 2 mm diameter there is no effect.

Angle of Inclination: This is very important, and small angles of inclination produce a great increase in rate of fall. It is therefore imperative that the tubes be vertical[16, 17, 18].

Temperature: Within the usual limits of room temperature is little effect, however, the rate tends to increase the higher the temperature and decrease the lower the temperature. The effect of temperature is not always consistent, however[19, 20, 21].

Standing: Blood that has stood six hours loses its sedimentation effect, and this is worth remembering. If the blood is kept agitated it does not lose this property.

Diurnal Variations: The rate tends to be lowest at 6 a.m. and highest at 3-9 p.m. There may

be considerable variation in both normals and the sick[22]. Meteorological effects have also been noted[23, 24].

Contaminating Substances: Contamination with alcohol used for asepsis retards the E.S.R.[25]. Oral administration of alcohol does the same.

Technique

There are very many techniques for measuring the E.S.R.—some depend on measuring the time it takes for the red cells to fall a defined distance; others measure the fall in a defined period of time; others take readings of the distance fallen at intervals of time and draw a curve; and then measure some characteristic of the curve (e.g. the rate of fall at the steepest part of the curve which is the maximum rate of fall). There does not appear to be any great advantage in involved methods and more and more is the Westergren method coming into routine use.

In this method a tube is used that is long enough and has sufficient size of bore that these factors do not affect the rate of sedimentation.

Method

Into a clean, small screw-cap bottle place 0.2 ml. of 5% potassium oxalate solution and allow the solution to dry. It is convenient to make up a number of these bottles at a time and keep them on hand for use.

Using a clean, dry, syringe and needle, collect blood by venipuncture, do not leave the tourniquet on longer than necessary. Place 5 ml. of the blood in the bottle and mix so that the dry oxalate dissolves in the blood.

A Westergren tube is filled to the zero mark by sucking the well mixed blood into it. Hold the column of blood in the tube by keeping the index finger over the top of the tube. Take a small square of plasticine and plug the bottom of the tube. The blood will now remain in the Westergren tube. Place a bobby-pin in the top of the Westergren tube, and the pin will stay in place by virtue of the spring effect of its metal. Suspend the tube from a nail driven into the wall by hanging the loop of the bobby-pin on the nail. Gravitational pull will now keep the tube vertical. The nails should be set up where the tubes do not tend to sway in the breeze and where direct sunlight does not fall on the tubes. Set a time clock to ring at one hour. When the time is up read the number of millimeters the red cell column has fallen by observing at what point in the tube the top of this column is opposite. Ignore clumps of red cells that may be present above this level in some bloods.

Also look at the supernatant plasma to see if it is unusually yellow (jaundice) or unusually opaque (hyperlipemia).

Accuracy

Using the same blood, sedimentation rates are reproducible with a probable error of 8%.

Interpretation

Normal Values: Males—It is comparatively easy to set up normal values for males. In a series of 100 apparently healthy males 80 had sedimentation rates of 10 mm or less per hour. None had rates over 20 mm per hour. Therefore in males, normal range can be considered to be 0-10 mm per hour; doubtful range from 10-20 mm/hr and any reading greater than 20 mm/hr is probably significantly increased.

Females—It is not so easy to define the normal range for females. The red cell stability in this sex appears to be considerably less than in males. Pregnancy, of course, affects it, and the rate begins to increase at 6-8th week, rising gradually to a maximum plateau at the 40th week, in the region of 50 mm/hr. It then falls off rapidly after delivery and is almost normal by the 4th post-partum week and normal by the 8th. If the fetus dies in utero the sedimentation rate behaves as if delivery had occurred[26]. Menstruation does not affect the E.S.R. In a series of 100 apparently healthy, non-pregnant (?) females we found the following distribution:

0-10 mm/hr	25%
10-20 mm/hr	43%
20-30 mm/hr	14%
30-40 mm/hr	14%
Over 40 mm/hr	4%

On distribution, therefore, one could suggest that the normal range for females is 0-25 mm/hr, doubtful range is 25-35 mm/hr and over 35 mm per hour abnormal. Occasionally one encounters females who have unexplained increased sedimentation rates, and in spite of prolonged search, no reason is found for this. As a rule these females are obese, and so perhaps in the absence of any discoverable cause in an obese female, an increased sedimentation rate may not be significant[27,28]. In obese females it has been observed by others that elevated sedimentation rates tend to persist after all signs of the disease that might have produced this increase are gone[29].

Clinical Value

There are three uses for this test in clinical medicine: 1. As a screening test for presence of disease; 2. Also as an aid to diagnosis in certain diseases; and 3. To follow the course of a disease. The test is a very non-specific one, however[30, 31, 32, 33, 34, 35].

Acute Pyogenic Infections

In acute pyogenic infections such as acute tonsillitis the E.S.R. is normal at the onset of the disease. This is also true of lobar pneumonia,

acute appendicitis, etc. By the end of 48 hours from the onset the rate is increasing and tends to rise to a maximum over the next ten days if the infection persists. If the infection subsides, however, the rate begins to return to normal and generally has reached normal levels again by the end of two weeks or so. In typhoid fever the rate does not increase until 7-10th day of the disease. Other infectious diseases may have different patterns in their E.S.R. In infectious mononucleosis the sedimentation rate does not tend to increase until the patients are recovering from the disease; and this is also true of infectious hepatitis where in 85% of cases the rate is normal during the first ten days. In poliomyelitis the rate is rarely elevated. In chronic brucellosis normal rates are the rule. Pertussis too, is generally associated with normal sedimentation rate. Simple colds, influenza, mumps (unless orchitis or pancreatitis is present) also tend to have normal rates.

In tuberculosis the rate is generally increased, and almost always is increased in the presence of miliary tuberculosis, or pleural effusion; or if there is fever. However 35% of cases of minimal tuberculosis have normal E.S.R. and even 5-10% of moderately advanced cases have normal rates. In so-called virus pneumonitis rapid rates are generally encountered.

Other Diseases

In bronchial asthma rates tend to be normal. In infarction of tissues the sedimentation rate follows the same pattern as for infectious diseases. It begins to increase about 48 hours later and reaches a maximum on the 4th to 5th day. It may persist for 2 to 6 months.

In acute rheumatic fever, rheumatoid arthritis, Still's disease, and rheumatic spondylitis the rate is almost always increased during active phases of the disease. Also in periarteritis and disseminated lupus. Many cases of chorea have normal rates.

In gout the rate is increased in 87% of cases during clinical activity of the disease and tends to be normal during clinical inactivity. In chronic gout, however, persistently elevated rates are the rule.

In myeloma greatly accelerated rates are encountered but occasionally normal E.S.R. is seen.

In gonococcal arthritis the E.S.R. is almost always increased whereas in fibrositis, traumatic arthritis, herniated discs and osteoarthritis the rate tends to be normal.

In the acute abdomen the rate is generally normal when the patient is first seen except in gonococcal salpingitis or tuberculous salpingitis where elevated rates are generally found with the onset of the abdominal symptoms.

In chronic ulcerative colitis and regional enteritis the rate is almost always over 40 mm/hr.

In many malignancies the rate is increased consistently. 70% of cases of carcinoma of the stomach show increased rates when the patient is first seen whereas in peptic ulcer only 9% have increased rates.

In Hodgkin's disease, and other lymphoblastomas and the leucemias the rates are almost always elevated and parallels the activity unless the patient is moribund when the rate falls off.

In nephritis the rate is increased and tends to parallel the Addis counts especially in the latent phases.

In chronic starvation it is said that the rate rises.

In sarcoidosis the rate may be normal. In liver failure normal E.S.R. tends to occur, and indeed liver failure occurring during any other disease may produce a drop in the E.S.R. Thus, in rheumatic fever, if congestive failure occurs, and interference with liver function, the sedimentation rate may drop to normal.

Increased sedimentation rate in congestive failure is generally due to some cause other than the failure per se[34].

Drugs

Salicylates are said to depress the sedimentation rate not only in rheumatic fever, but in other situations where the rate is increased. Alcohol is said to have this effect too.

Heparin and dicoumarol in clinically employed doses have no significant effect on the E.S.R.

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Trigeminal Neuralgia*

C. E. Corrigan, M.D.

"Of all the nerves, the trigeminus is most liable to neuralgia." —Oppenheim.

Introduction

Trigeminal neuralgia may be defined as a chronic progressive disease of which the sole primary symptom is pain limited to the area of distribution of the fifth cranial nerve. The condition was described as early as 1000 A.D. by the Arabian Avicenna. André in 1756 recognized the circumscription of the pain to the field of the trigeminal nerve and styled it "Tic Douloureux." This term, which is still in common usage, is unsatisfactory, as the tic or facial spasm is merely incidental to the disease itself.

To the above definition we may add that no other capacities of the trigeminal either sensory, motor or autonomic are directly involved, the affection being limited to the pain moiety only. Furthermore, no causal relationships have ever been established. The character of the pain is not that of a neuritis or a causalgia. There is no other pain like it in all human experience. We conclude, therefore, that trigeminal neuralgia is an entity.

By some authors the term trigeminal neuralgia is used to include not only a specific disease but also other pains in the face which may arise directly or indirectly from some definite focus. In the present instance we will exclude from the definition all those painful conditions for which a known cause may be assigned.

General Features

It is a disease most commonly met with in middle life, the majority of cases occurring between the ages of 50 and 70 years. Typical examples have been described in younger people, but it is uncommonly rare before the age of 30. Females are affected slightly more commonly than males. The right side of the face is involved in 70% of instances. In less than 1% of cases is the pain bilateral, and the majority of these are diabetic. Any of the three main divisions of the nerve may be involved, but the symptoms invariably start in one division only. Furthermore, at the onset the pain is situated in the peripheral portion of the affected division, often being limited to one branch. The maxillary division is the commonest to be primarily affected; the mandibular is a close second, while the ophthalmic is a rare third. Two or more divisions may become involved as the disease progresses, and when the ophthalmic is affected it is usually in a secondary role.

No general symptoms are associated except in statistical proportions. The general health of the patients keeps remarkably well considering the disability they suffer. Emaciation, decrepitude or confinement to bed seldom accompany the picture.

Symptomatology

The outstanding symptom is pain.

"It is the most agonizing pain from which a patient may suffer."—Purves-Stewart.

The symptoms, though varying in degree, are remarkably constant in character. In this respect they appear to vary only with the insight and ability of the patient to describe them. The most characteristic feature of the pain is its **paroxysmal nature,** which may be summed up as follows:

It consists of:

Stabs, lasting for **seconds,**
recurring every few **minutes** in
Bouts, lasting for **hours,**
recurring every few **days** in
Attacks, lasting for **weeks,**
recurring after remissions of **months.**

To illustrate:

Mrs. B., now in her second attack, had her first attack one year ago. It lasted for five weeks. Twice a day during that time she suffered from bouts which lasted for from two to six hours. Her pain consisted of lightning-like stabs "like a red-hot corkscrew, which darts into my chin twenty times in half as many seconds, then goes away for anywhere from five minutes to half an hour."

Between the "darts of the red-hot corkscrew" the patient is free from pain, though a sense of discomfort (apprehension) may persist for some time. The stabs probably never keep up for more than two minutes without an appreciable intermission. This cycle of sharply demarcated pain and relief is pathognomonic of trigeminal neuralgia. It is present in every case.

The stabs may start spontaneously, but in some cases they are induced by minor disturbances such as a cold draught, masticatory movements or talking. Other types of extraneous interference such as firm pressure on the face are not likely to be so effective in initiating a paroxysm. For this reason patients often keep their faces at rest in a mask-like manner while a bout is in progress, refraining from eating or even speaking. It must be understood that this is an acquired voluntary phenomenon, in no way directly associated with the disease itself.

The pain invariably starts at one constant point, radiating from there in a centripetal direction. The patient is always able to indicate this point.

Trigger zones, areas of local hypersensitivity, are present in the more advanced cases. These usually, but not always, correspond to the points at which the pain starts.

Several accessory phenomena may be associated with the attacks. They are probably all the

*From the Faculty of Medicine, University of Manitoba.

result of the unparalleled severity of the pain. They are as follows:

1. Tonic spasm of the face on the affected side —the so-called tic.
2. Flushing of the corresponding half of the face.
3. Mydriasis.
4. Lachrymation.
5. Excessive flow of salivary and nasal secretion.

Diagnosis

This is based entirely on clinical history, which, as previously mentioned, is remarkably constant in all cases. For this reason the diagnosis is usually easy, but one should always attempt to substantiate it by the method of exclusion.

The main clinical features are as follows:

1. The limitation of the pain to the sensory distribution of the trigeminal nerve.
2. The paroxysmal nature of the pain with intervals of comfort.
3. The absence of objective sensory motor or trophic disturbances.
4. The absence of any discoverable pathological lesion.

The exclusion of pains of reflex origin may necessitate a great deal of x-ray and surgical investigation. One point in particular is worthy of emphasis. Many cases are not diagnosed until after all the teeth have been removed. Later on, when a radical surgical procedure is carried out as a means of cure, it will be found that the anaesthesia so produced in the palate precludes the wearing of a dental plate. Hence, the mass extraction of teeth for presumably curative purposes should be very carefully considered if there is any possibility of the condition being due to trigeminal neuralgia.

Differential Diagnosis

This has to be considered particularly in early cases and in those cases where the pain is felt on the inside instead of the outside of the face.

Two main groups may be described:

I. Pains in the distribution of other nerves:

(a) Facial Herpes:

The somatic sensory distribution of the facial includes a portion of the external auditory canal. In such a case the pain is not peripheral at the onset and the typical vesicles of herpes will be found.

(b) Glosso-pharyngeal Nerve:

This pain is felt in the region of the tonsil, base of the tongue and oro-pharynx. A trigger zone is often present on the tonsil. The spasms are initiated by yawning or swallowing and, again, the pain is not peripheral at the onset.

(c) Spheno-palatine (Meckel's) Ganglion:

Lesions here give rise to a "lower half" headache, characterized by nocturnal attacks of pain in the eye, upper jaw, upper teeth or upper nasal fossae. Sneezing and rhinorrhoea are frequent accompaniments.

II. Other pains in the distribution of the trigeminal:

(a) Herpes Ophthalmica:

Corneal ulcers, loss of the corneal reflex and enlarged pre-auricular lymphatic glands are found.

(b) Direct Irritation:

The sensory root of the trigeminus may be irritated by an acoustic neuroma in the posterior cranial fossa. The Gasserian ganglion may be involved by an endothelioma in the middle cranial fossa. The peripheral divisions of the nerve may be irritated by sarcomata, etc., in the pterygoid region. In all such conditions there will be associated lesions in other nerves and in other structures.

(c) Reflex Neuralgias:

This group appears to give the greatest trouble in arriving at a diagnosis. Sinus disease and dental lesions are common ailments which tend to produce reflex pains. But, even when such a lesion is responsible for the pain, it is usually definite, discernible and indictable beyond doubt.

In addition to the above, one has noted the relatively common diagnosis of "migraine" applied early in the course of the disease. While the clinical description given above applies to almost 100% of the sufferers in whom the disease has become established, nevertheless in the early stages, the clinical picture may be poorly delineated. The absolute unilaterality of the pain, its occurrence in attacks—with intervals of freedom, lend some justice to this conclusion, but the absence of visual disturbances, nausea and vomiting, etc., should call for a critical review of such a diagnosis.

Again one has noted the incorrect application of trigeminal neuralgia as a diagnosis to pains of other origin. The pains associated with a hypothyroid state are in point, as well as those accompanying the anaemias. Such pains have no particular field of localization and should they select the right lower abdominal quadrant, or the trigeminal area, they may cause poignant confusion.

Aetiology

The cause is unknown.

Pathology

No constant pathological changes have been noted in any part of the trigeminal pathway. Minute vascular changes have occasionally been seen in the ganglion or its divisions, but these are probably local manifestations of the generalized circulatory changes commonly met with in people beyond middle age.

The most that one can say regarding the pathology is that the trouble lies somewhere be-

tween the Gasserian ganglion and the periphery, as section of the sensory root invariably abolishes the pain. In this respect does the disease differ from causalgia, where section of the posterior spinal roots does not always result in a cure.

Progress

The condition may remain localized to one branch for years, but eventually tends to involve the whole of one division. Later, an adjoining division becomes affected and in rare instances the whole trigeminal area of one side is stricken.

The attacks tend to last longer and become more severe in intensity, while the intervals of freedom from pain gradually shorten. Yet, in spite of the relentless progress of the disease, the patient is entirely free of symptoms during the intermissions.

Very occasionally the trouble resolves spontaneously, in which case the patient may experience only one attack. While no figures are available as to the undoubted suicide rate amongst sufferers from this malady, Frazier states that in a personal experience of 1,317 cases he has never once met with a morphine addict.

Treatment

Two methods only will be discussed, namely:

I. Injection

II. Operation

I. In the first attack the usual remedies employed comprise the analgesics and morphine. These usually prove ineffectual in controlling the pain. In fact, this failure of medication to give relief is strong evidence in support of the diagnosis. It is, as a rule, unwise to attempt at this stage any form of treatment more radical than the injection of the branch involved. Since the pain is often limited to one peripheral branch only, an injection of novocaine or salt solution directly through the epilemmal sheath will give instantaneous and occasionally lasting relief.

When the case is seen in a second attack, or when the first attack is very severe and involves the whole of one division, one should attempt injection of the nerve close to the base of the skull. The injection this time should consist of alcohol. This will subvert all functions of the nerve, including pain, for about nine months.

Consequently, it is unwise to inject alcohol during the first attack. In the first place the patient may recover completely after one attack, in which case his nine months of anaesthesia would constitute a disability. Again, the second attack usually appears more than nine months after the first, so the injection would have to be repeated immediately—and the beneficial results of injection tend to diminish with repetition.

Several objections have been raised against the injection method of treatment. Injection of the ganglion itself is undoubtedly dangerous, but no serious damage can come from attacking one of the divisions outside the skull. Furthermore, Byrnes of Johns Hopkins claims to produce relief for as long as seven years by this method. Injection should always be carried out before undertaking an operation, for the following reasons:

(a) It confirms the diagnosis.

(b) Rarely it may cure the patient.

(c) The pain of injection is not as bad as the pain of the disease.

(d) It accustoms the patient to anaesthesia, and occasionally a patient will complain more of the anaesthesia than he did of the pain. In such an instance the noxious effect of injection, as opposed to operation, is not irremediable.

II. Operation is reserved for proven cases of an established nature, after all other methods have failed. The point of attack is the sensory root between the Gasserian ganglion and the pons. Here it is possible to preserve the motor root and at the same time obtain some degree of selectivity of anaesthesia, in that fibres from either the ophthalmic or mandibular divisions may be spared. The mortality of operation averages about 1%. Its effects are absolute and permanent.

In recent years an alternate surgical attack has been devised in the form of an intramedullary tractotomy. Here the central connecting fibres carrying only pain sensations are severed. This has the advantage of preserving the motor functions of the fifth nerve as well as the touch sensations. Preservation of the latter will avoid the development of keratitis that occasionally follows post ganglionic neurectomy. The loss of motor function on one side of the face is sometimes unavoidable but should the disease be bilateral, loss of motor masticatory function on both sides is deplorable. Hence the method is at present indicated when attacking the second side where bilateral involvement obtains.

Recent Advances in Internal Medicine

This is the second of a series of articles on Recent Advances in Medicine

S. Vaisrub, M.D., M.R.C.P. (Lond.)

Heredity and Environment

Important changes are currently taking place in our views on inherited and acquired influences in the etiology of various disorders. Problems of heredity and environment, notoriously difficult, due to large gaps in our understanding of their fundamental mechanisms, and details of their operation, are now undergoing revision, and re-evaluation in the light of some recent developments in the fields of genetics, biochemistry, embryology, and clinical medicine.

Genetics, the science primarily concerned with the problems of heredity, is relaxing some of its rigid tenets. Mendelian laws of hereditary transmission of characters as pure dominant, recessive or sex-linked, are undergoing important modifications. "Mutatious," "incomplete dominants," "changing behaviour of genes," "modifiers"—are some of the newer concepts that tend to make the hitherto presented picture appear as an over-simplification. Genes, the determiners of unit characters, and the unit characters determined by them, are no longer thought to be related in terms of simple causality. Their relationship is viewed not as that of specific cause and its precise effect, but rather as that of impulse and development, the former inclining the latter in a certain way, probably by influencing rates of processes by biochemical means. A gene may have an effect on two or more sets of processes. It may affect a single process, but in many sites. It may itself be subject to influences. A gene of the classical type may be influenced by genes of small effect called "modifiers." It is understandable, in view of the above complex factors, why Genetics has not succeeded in providing a clean cut method of determining heredity, and predicting the chances of inheritance.

Some progress in this direction, however, has been made. Researches of Dorothy Andersen and Hodges (1946), and Lowe, May and Reed (1949), into the problem of inheritance of pancreatic fibrosis have clearly demonstrated that the disorder results from a single Mendelian recessive gene, which in the homozygous condition causes a defect of the pancreas. Similar studies of hereditary transmission of some Neurological disorders and Myopathies are being carried out by M. Wintrobe and his co-workers (1950). These investigations of large groups with numerous familial examples illustrate the value of a method of study, which enlists the aid of statistics on a large scale.

Even more valuable to our understanding of the problems of heredity and environment, as applied to the etiology of various disorders, is the recent knowledge acquired from the fields of clinical medicine, biochemistry and embryology. As a result of these new data, a re-shuffle of concepts of inheritance and environment is taking place. Some abnormalities, erstwhile considered to be acquired, are now thought to be inherited, and conversely others, previously regarded as hereditary, are now viewed as environmental.

A good example of the first group are some behaviour disorders of children. These have been always attributed to adverse environmental influences, and the blame has been usually laid at the parents' door. Recent electro-encephalographic studies have demonstrated that some of these children have tracings characteristic of cerebral dysrhythmias. The theoretical and practical implications of this finding are important. Since the trait may not be environmental, the parents may be relieved of their sense of guilt. The children may also benefit from a more rational therapy.

Another possible "gain" for the forces of heredity is the recently advanced concept of genetotrophic disease. This hypothesis, ably presented by R. S. Williams and E. Beerstecher (1950) is based on the concept of partial genetic blocks. The latter are inherited traits, characterized by diminution of ability to carry out some specific enzymatic transformation. A genetotrophic disease is one in which, due to an existing genetic block, there is an increased requirement for some nutrient. As a result of this demand there develops a state of nutritional deficiency. In other words, a genetotrophic disease is a deficiency disease due to an inherited trait. The proponents of this theory suggest that genetotrophic factors may be at work in such diverse conditions as alcoholism, diabetes mellitus, cancer, disseminated sclerosis, rheumatoid arthritis, and some mental diseases. They also hold out the hope of rational therapy, if and when the nature of the required nutritional precursors becomes known. By increasing their supply to a concentration that will deliver adequate amounts of product across the faulty metabolic step, control of the disorder may become possible. The validity of this hypothesis, which to date has not received wide acclaim, cannot be as yet assessed.

More solid and substantial than the above "gains" made by the forces of heredity are those of environment. The most important example of this group are the developmental abnormalities—such as deaf-mutism, microcephalus, cardiac septal defects, patent ductus arteriosus, cataracts, previously considered by most, to be genetic, that were observed in association with rubella in the mother during the first four months of pregnancy. This observation, first made by Gregg (1941), in

Australia, and subsequently confirmed by many others (Swan reviewed 558 cases in 1949), has stimulated great interest in the subject of environmental influences operating during gestation. Studies have since been made of the possible influences of other infectious diseases in the mother on embryonic and fetal development. None of the common infectious diseases, however, apart from rubella, have been incriminated to date. Toxoplasma infection in fetal life was found to be associated with subsequent development during early infancy of microphthalmus, chorioretinitis, hydrocephalus, and intracranial calcification (Sabin, 1941, 1949; Adams, 1948; Farquar, 1949; Nutt, 1949). The possible effects of hormonal disturbances of the mother on fetal development have come under close scrutiny, following upon the observation that diabetic mothers, and mothers, who subsequently develop diabetes, are prone to give birth to large babies. The effects of maternal iso-immunization (RH), as well as the possible effects of dietary deficiencies, pelvic irradiation, and various disorders of the mother on fetal growth and development, are attracting increasing attention.

Important contributions to our knowledge also come from the fields of experimental (animal) embryology. Various noxious stimuli—trauma, starvation, irradiation, by interfering with embryonic development at various stages have resulted in faults of growth and development simulating those, that in the past have been ascribed to pure genetic causes. Of particular interest in this connection are the results of the experimental work of Duraiswami (1950), who by injecting insulin into the yolks of developing hens' eggs, has succeeded in producing a number of developmental abnormalities, including spina bifida, eye changes, and skeletal changes comparable to osteogenesis Imperfecta. The implications of these findings as applied to human developmental diseases, cannot as yet be fully assessed.

The above studies and observations, apart from their contribution toward clarification of concepts, are of practical importance in that they promise possible ways of prevention. A good illustration of the latter is the successful attempt (Anderson, 1949), of inducing rubella by spraying throat washings of affected subjects into the naso and oropharynx of volunteers. Immunization of potential mothers may thus become possible. As our knowledge of fetal pathology increases, ways of prophylaxis may suggest themselves.

In the assessment of the influences of heredity and environment in the etiology of diseases they are usually pictured as independent forces, one or the other being implicated. There is, however, growing evidence that the relationship between the two influences is more intimate. There is considerable interplay between them in some disorders. Environment may mask or may bring out genetic differences. It may even interact with genetic factors to produce certain abnormalities (Mongolism, Kernicterus). This dynamic interrelationship provides another illustration of the operation of multiple etiologies in medicine, and a warning against the dangers of oversimplification inherent in the "either or" orientation in the study of the genesis of disease.

Psyche and Soma

The Psychosomatic concept is continuing to exercise its influence on medical thought with unabated vigor. It is not, however, static. Important changes are taking place and significant trends are discernible. These are viewed best against the background of history.

That emotions can affect the physical state has been known for centuries to laymen and physicians alike. This knowledge found expression in the daily practice of physicians, who recognized the importance of emotional reactions long before the term "psychosomatic" had been introduced. This awareness, however, was more intuitive than scientific, for it is only in the past two decades or so that it acquired a scientific foundation, and became incorporated into medical thought.

That the psychosomatic concept entered the scientific arena rather late is not to be wondered at, for the philosophical and scientific trends of the nineteenth century were not favorable for its development. The strong influence of the positivist doctrines of August Comte fostered the mechanistic outlook. Psychiatry, pre-occupied almost exclusively with description and classification of mental disease, was static. Medicine was dominated by Virchow's rigid structural concepts of cellular pathology. Function was regarded always as the result of structure never as its cause. Disease was viewed not as a process, but as a state, a structural abnormality caused by extraneous factors. Man was looked upon not as an individual, but as a collection of organs, which played a passive part in disease.

Important changes in outlook, however, have since taken place. Psychiatry, enriched by Freudian explorations of the subconscious mind, by Pavlov's studies of conditioned reflexes, and by recent researches into the physiology of emotion, has become increasingly more dynamic. So has Medicine and the allied disciplines of Pathology, biochemistry and physiology. Functional conception of disease has gradually replaced the structural. Structure lost its pre-eminence as the basis of pathology, and is often conceded to be the result rather than the cause of function. Disease is no longer regarded as a passive state, but as a dynamic process and vital reaction. Man is no longer viewed as a mere aggregate of tissues and organs,

but as an individual, whose defensive and adaptive responses are just as important as extrinsic factors in the etiology and evolution of disease.

With this changing background the atmosphere became more favorable for the acceptance and development of the Psychosomatic concept. To Draper, Halliday, Dunbar, Weiss, English and other pioneers in this field goes the credit for advancement and elucidation of the concept. To Wolff and Wolf, who studied by direct observation the responses of the stomach under emotional stress, medicine is indebted for a new approach to clinical investigation. To Fraser, Wood, Dunn and other workers, recognition should be given for observations and studies made during World War II of the effects of emotional stress on bodily functions. In fact, the Second World War is responsible for providing the biggest impetus to the development of the psychosomatic concept. Numerous rejections of recruits in whom no organic illness was found, and the observed organic effects of prolonged fear and anxiety have focussed attention on this aspect of medicine. A major contribution at the time was the observation and study of 300 cases of effort syndrome (DaCosta's syndrome, neurocirculatory asthenia), by Paul Wood, who in his Goulstonian lectures in 1941, clearly demonstrated that this disorder, formerly regarded mainly as a physical disturbance, is more of the nature of a psychoneurotic illness. He described the psychological background of the disorder, as well as its symptoms, physical signs, natural history and psychotherapy. His conclusions that the syndrome is an autonomic expression of chronic anxiety coupled with fear producing situations, have been since generally accepted, and are now common knowledge.

Similarly, emotional factors in the etiology of other diseases have become a subject of investigation by many writers. Davies, Wilson and others have stressed the role of chronic anxiety, related particularly to financial and occupational stress, in the provocation of attacks of peptic ulcer. White emphasized the part that sustained emotional tension and suppressed resentment play in the etiology of mucous colitis. Ryle commented on the part played by social and sexual maladjustment at puberty in the causation of anorexia nervosa. Gillespie drew attention to emotional tension, especially interaction of fear and anger in the precipitation of attacks of asthma. In these and various other conditions, emotion is credited by many authorities with being the important precipitating factor.

An important role in the genesis of "Psychosomatic" affections is assigned by many writers to "Personality types." Significant contributions to this aspect of medicine were made by George Draper, whose work on human constitution, and whose anthropomorphic studies have led him to some interesting, albeit somewhat controversial conclusions. As an example may be quoted, his description of an ulcer personality: "They belong to the lineal division of mankind (i.e., lean and slender). They have good intellect, keen sense of humor, swift and intense emotional responsiveness. They are conscientious and forever striving to attain some goal. They are nervous victims of chronic fear and possess the habit of worrying. They are the most dramatic personalities in our practice."

Similarly, other writers have described characteristic personality types in various other diseases. Paul Wood mentions the timid, nervous, overprotected young man of the "effort syndrome." White et al, in analyzing their cases of mucous colitis finds them to be weak, passive dependent, indecisive personalities. Dunbar describes hypertensive patients as ambitious, aggressive, dominant characters, subject to fits of temper.

In addition to the precipitating emotional factors and the genetic and constitutional background of personality types, there are factors in the realm of the subconscious mind which, according to some authorities, play an important part in the causation of disease. A good illustration of this is provided by the psychoanalytic studies of Alexander and, subsequently, Draper on patients with peptic ulcer. According to these investigators, ulcer patients reveal a regression to the early stages of emotional life. Although consciously the ulcer patient is dominated by ideas of independence, activity, and success, there was in them a strong desire for dependence. Repressed wishes to be loved and cared for found expression in gastric symptoms. Since the first form of being cared for and loved in an infant is nursing, sensation of being fed and being loved are associated for the rest of life, and if the wish to be loved is denied, the wish to be fed is stimulated. To quote Draper "like frightened, neglected children they are striving to recapture and maintain the mother principle which has ministered so meticulously to demands of the infant for milk."

The psychosomatic concept, which has now become complex and multi-faceted, has confronted medicine with a new conception of etiology. It was now a short step from the formulation of a new etiology to the formation of a new specialty. Indeed in many quarters, Psychosomatic Medicine has begun to be regarded as a separate branch of Medicine dealing with psychosomatic disorders as distinguished from "pure" somatic diseases. This point of view is expounded by Halliday, who, having defined psychosomatic affection as a bodily disorder whose nature can be appreciated only when emotional disturbances are investigated, proceeds to formulate it on 6 points: (1) Emotion as a

precipitating factor. (2) A particular type of personality trend to be associated with each affection. (3) Disproportion in sex incidence. (4) Tendency to sequence or alternation of different affections. (5) Frequent family history of the same or similar disorder. (6) Phasic intermittent course. He also observes that in addition to fulfilling these criteria, a psychosomatic affection is one "whose incidence rises or falls in accordance with the rise and fall of communal "upsetting events," i.e., in accordance with the pressure of environment (or environmental flux) in its psychological as distinguished from its physical aspects." (His book, Psychosocial Medicine (1948), deals with this aspect very thoroughly). The list of Psychosomatic affections, as tabulated by Halliday, is given below.

Gastro-intestinal system: Duodenal ulcer; gastric ulcer; mucous colitis; "gastritis"; certain instances of hemorrhoids and of gall-bladder disease.

Cardiovascular system: Effort syndrome; cases of essential hypertension, of coronary thrombosis, and of cerebral hemorrhage.

Respiratory system: Many cases of asthma, of allergic rhinitis and of recurring bronchitis.

Genito-urinary system: Many cases of nocturnal eneuresis, menstrual disturbances and leucorrhea; even some cases of pyogenic urinary affection.

Locomotor system: Many cases labelled "fibrositis," neuritis sciatica and lumbago; also rheumatoid arthritis and certain nontraumatic cases of osteoarthritis.

Endocrine system: Many cases of exophthalmic goiter and hyperthyroidism; also certain cases of diabetes, obesity and myxedema.

Nervous System: Certain cases of migraine, and the innumerable bodily disturbances of anxiety states and hysteria.

Blood: Certain cases of non-nutritionally determined hypochromic anemia.

Skin: Alopecia areata; certain cases labelled prurigo, pruritus, urticaria, seborrhea, etc.

Eyes: Miner's nystagmus; certain cases of chronic conjunctivitis and blepharitis.

By drawing up the above list of psychosomatic affections, and formulating definite criteria for their diagnosis, Halliday has narrowed down the Psychosomatic concept. This point of view endorces Psychosomatic Medicine as a branch of medicine, separate and distinct from other branches. This "dualistic" trend, however, is not the dominant one in present day medical thought. The pendulum is now swinging in the other direction, and the trend is toward integration of Psychosomatic medicine with general medicine. The reasons for this change of attitude are not too far to seek. One of them is that there appears to be no agreement between many observers on the precise emotional factors and personality types involved in many psychosomatic disorders. Another reason is that in some of the latter, somatic factors appear to be predominant. Conversely in many, if not all, somatic disorders, there is a strong emotional component. The dualistic "either or" approach is, thus, no longer tenable. How, for instance, is one to label a case of myocardial infarction with a strong superimposed "cardiac" neurosis? Obviously, it cannot be assigned to either one of the above groups, for it contains the elements of both. Similarly, in any other disorder, a strict differentiation into somatic and psychologic processes cannot be made, since there is a simultaneous occurrence of, and an intimate interrelationship between psychological and somatic processes in every instance. All illness, thus, becomes an intricate and fluctuating mixture of both components and is in a sense psychosomatic. A strong plea for integration of Psychosomatic Medicine with General Medicine is made by Braceland, Miller, West, Harris and many others. They regard Psychosomatic Medicine not as a specialty, but as an approach to medicine which implies attention to the emotional as well as physical aspects of disease. They consider the concept to be a fundamental one, pervading understanding of all diseases. The trend thus appears to be toward assimilation of Psychosomatic Medicine into the body of general medicine. To quote N. G. Harris: "The most important trend in psychological medicine is to narrow the gap between this particular branch and all other branches." This departure of medicine from a purely mechanistic orientation toward a more biological and humanistic approach, with its recognition of the patient as a whole person and of illness as a mode of behaviour, in which both somatic and emotional factors are involved, is an important advance. In medicine, if not in philosophy, there can be no dichotomy of the psyche and the soma.

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Blood Groups and Anthropology

Cecil Harris, B.Sc., M.D., M.R.C.P.
Canadian Red Cross Blood Transfusion Service
and Misericordia Hospital, Winnipeg

Fundamentals

In studying his own origins Man has used several different approaches. He has compared the tongues and customs of peoples throughout the world and has thus essayed to establish relationships between and to hazard guesses as to the probable migrations of various ethnic groups. On a somewhat more concrete basis the science of physical anthropology has attempted to perform the same task by studying the physical features of living races and of ancient skeletons. Both these approaches suffer major drawbacks, the more important being the relative transience and fluidity of customs on the one hand and the marked alteration in physical characteristics that may be brought about by interbreeding and by the effects of environment on the other.

If each ethnic group were possessed of some inheritable and readily identifiable feature which could not be altered by external influences, such as nutrition and climate, study of Mankind would be easy. While no such features are known, the nearest approach is made by the blood groups. With inherited physical characteristics, interbreeding may produce intermediate features incapable of accurate assessment, whereas, with blood groups, no intermediates are, broadly speaking, possible, and the results of tests on the individual are clear-cut.

Before going on to glance at the results of what studies have been carried out in the world, it might be as well to review some of the pertinent features of blood groups. That anthropoid apes possess O, A and B group specific substances indicates a very early phylogenic origin for the blood groups, but the present distribution of groups among living peoples is the subject of controversy. Did it come about by mutations to A and B in stocks originally all of group O (Elsdon-Dew, 1937) or, as appears more likely, is it due to interbreeding of originally pure A, B and O stocks (Haldane, 1940)? However that may be, the present genetic position of blood groups is clear. Ignoring sub-groups for the moment, transmission is on the principle of multiple allelomorphism, that is, with three possible genes or alleles at a fixed locus on the chromosome. The A and B genes are dominant over O and there is no practical way, except, in some instances, by family studies, to separate an AO individual from an AA, or a BO from a BB. That everyone possesses two genes is, of course, elementary; thus the phenotypes A and B (i.e. the blood grouping as revealed by ordinary testing) may give homozygous (AA or BB) or heterozygous (AO or BO) genotypes. Group AB obviously is heterozygous and similarly group O must be of homozygous OO genotype.

The recessive O gene in A and B heterozygous individuals presents a problem when anthropological studies are being undertaken. It is patent that merely to compare blood group distributions is not enough because the figure for the recessive gene O would fail to indicate the frequency of its presence in A and B heterozygotes. This problem is surmounted by the ability to calculate, from an appropriate formula, gene frequencies and it is these figures which are used in comparing ethnological groups on a mass basis.

Of course, blood groups or types other than ABO may be used to support or to add to the information thus obtained and knowledge of the M and N factors is sufficiently widespread of this purpose. More recently studies of the Rh factor have been made in relation to its global distribution, but, as rhesus-incompatibility between mother and father may limit the number of offspring produced, the question of survival value, absent with the ABO and MN system, is introduced. On the other hand, the complexity of the Rh subtypes may facilitate distinction, otherwise impossible, between closely related groups.

Applications

The gene O has the highest frequency in most races, although, in some, the fact may be masked by the predominance of heterozygous AO and BO genotypes. Gene A is of high frequency in Western

Europe and the Far East, while gene B is most frequent in Eastern Europe, North and Central Africa, and especially Central Asia. Gene B probably originated in Central Asia and later spread east and west. Far Eastern races, while of high A gene frequency, do not possess the sub-group A_2 and thus differ from Western Europeans.

As the blood groups of North and South American aboriginals contain O and A_1, but not B or A_2, the theory, based on other evidence, thus gains support that the initial "discovery of America" was made by Eastern Asians migrating across the Behring Straits sometime after the end of the last Glacial Era some 25,000 years ago. Comparable in gene frequencies are the Australian aborigines and the Polynesians who, too, are probably derived from the same original stock. However, differences in MN distribution as between northerly and southerly parts of East Asia and as between indigenous Americans and the natives of Australia and Polynesia suggest that the Americas were invaded by people carrying a high frequency of M from the north of Eastern Asia, while Australia and Polynesia received a race with a preponderance of N from the south of Eastern Asia.

The pattern in Europe is difficult to discern. It is probable that, at the end of the last Glacial Era, both homo sapiens and Neanderthal man were present, the former absorbing the latter. From about 5,000 B. C. onwards Neolithic man came westwards from Western Asia and ultimately were produced the various Iron Age races such as the Kelts, Germans and Slavs. Subsequent history parallels the increase in frequency of the B gene as we travel from west to east in Europe. The gene was probably first derived from the mongoloid Huns who, after defeat at the hands of the Chinese sometime around 200 A.D., moved westwards into Hungary where they stayed until the overthrow of Attila in 451 A.D. Additions to the B gene frequency came with each of the numerous subsequent mongol invasions, culminating with that of Genghis Khan, which influenced the first millenium after Christ.

Keeping ahead of the mongol spread which carried the B gene into Eastern and Central Europe, a westward Neolithic advance into Scandinavia and into Britain in the first thousand years before Christ was followed by Viking influx into Iceland starting in 870 A.D. The blood group pattern thus set in these places was subsequently modified by invasions and immigrations from central Europe, the immigrants coming from Neolithic stocks previously influenced by the barbaric mongols whose history has already been mentioned. However, owing largely to geographical accident, the people of Scotland and of Iceland were, to a considerable extent, untouched. Today this is reflected in the fact that the blood group pattern in Iceland closely resembles that found in Northern Scotland, while the further south one goes in Britain, the more clearly does the distribution resemble that found in Western Europe. Not unnaturally, in cosmopolitan London the extreme is reached. Similarly, although Scandinavia was probably populated by the same race and at about the same time as Scotland, Sweden and Norway today possess gene frequencies of the pattern of Western Europe and this can be attributed to immigration of central Europeans with some mongol blood during the Middle Ages.

One of the most complex problems in the study of the migration of races lies in the peoples of the Pacific Ocean. Discussion of the facts so far revealed together with their implications would by itself merit a long paper and the interested reader might consult the key reference Simmons and Graydon (1947). Suffice it to say that the evidence points to an origin in Indonesia for the Polynesians who, probably ousted by Malay attacks, migrated by way of the Carolines and the Gilbert Islands to reach Samoa and Fiji before eventually settling Polynesia as we know it today and spreading to Tahiti and New Zealand as the Tahitians and Maoris. Melanesians show certain differences probably associated with a more direct spread into their present islands from the primitive stocks of south-eastern Asia, although, as noted already, Polynesian influence has been felt and is most marked in Samoa and Fiji. Lastly, although physical characteristics apparently related the African and the Oceanic negroes, the Papuan, an excellent example of the latter, completely lacks the sub-group A_2, which is found in about a third of the Africans.

Summary

It is often said that medical men concentrate too much on their own small science. When some broader field has facets familiar to the physician, he is the more likely to take an interest in it. If, by sketching in a very brief way the contributions made and yet to be made by those, our colleagues, throughout the world who use blood grouping as a tool of anthropology, I have succeeded in holding the attention of some, I am satisfied. A masterly address by Professor D. F. Cappell of the University of Glasgow aroused my own curiosity a few years ago and to him I acknowledge my indebtedness.

Much of the data on which these studies have been based were garnered from the records of large Blood Transfusion Services, such as those of Great Britain and of Australia. Perhaps the Canadian Red Cross Service may, in due course, make its contribution.

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PATHOLOGY

Banti's Disease and the Pathologist*

J. W. Abbiss, M.B., Ch.B., F.C.A.P.

Associate Professor of Pathology and Bacteriology, Dalhousie University, Associate Provincial Pathologist, Province of Nova Scotia

Professor J. W. McNee, in referring to the condition variously known as Banti's disease, Banti's syndrome, congestive splenomegaly, splenic anaemia and hepato-lienal fibrosis, has stated, not without good reason, that there has been much trouble with nomenclature, much difficulty in interpreting the splenic histology, and much discussion as to whether we are dealing with a clinical syndrome or a true pathological entity. Hence the title of this paper.

As a pathologist I am not especially concerned with, nor indeed am I qualified to go into a detailed discussion of the various clinical features of this relatively uncommon condition, but I am concerned with the pathologic anatomical findings. The pathology may be studied only too frequently, in its entirety at autopsy, but the pathologist does see, from time to time, spleens removed at operation. In adition, some surgeons, when performing a splenectomy for Banti's syndrome, take the opportunity of removing a small portion of liver as well, so that the pathologist can study the histology of this organ as well as that of the spleen. At this point I would stress the importance of such a liver biopsy, even though the organ appears normal on gross examination.

It is with these pathologic anatomical findings, and with their possible causal factors, that I propose to deal in this paper, leaving any discussion of forms of treatment to the clinicians in the discussion period.

Banti first described the condition in 1894, and continued to write further papers on the subject up to 1910, during which period of time, although his clinical picture remained fairly constant, his descriptions of the pathology, particularly the histo-pathology of the spleen was subject to variation from time to time. Briefly, the condition is usually defined as being of a chronic nature and characterised by an enlarged spleen, a progressive anaemia with leucopenia, a tendency to gastric haemorrhages, and, in the later stages, cirrhosis of the liver and ascites. According to Banti, three stages could be recognized, firstly a stage of splenomegaly with a gradually increasing anaemia, lasting several years, secondly, a short stage, possibly a few months only, of liver enlargement and sometimes jaundice, followed by a third stage characterized by marked liver cirrhosis, cachexia, ascites, haemorrhages, and finally death. These three stages are by no means clear cut, and the usual definition of the condition as given above is certainly not true with respect to the stated lateness of the liver cirrhosis. As I will mention later, if liver biopsy is done in the apparently early stages, many cases will show microscopic evidence of early fibrosis long before gross evidence of cirrhosis is visible.

The principal pathologic anatomical findings are an enlarged firm spleen, average weight 700-900 grams, with a thickened capsule, which is often adherent to surrounding structures, and which on cut surface shows a greyish-pink translucent appearance. The liver appearances vary, sometimes the gross appearance may be normal, but in other cases a typical portal cirrhosis may be seen. Thrombosis and degenerative thickening of the splenic and portal veins is sometimes present, and there may be marked dilation of the collateral venous circulation with oesophageal varicosities, rupture of which may be responsible for the final terminal episode. Microscopically the spleen shows disruption of the normal architecture, there being fibrosis of the Malpighian bodies and an increase in the splenic reticulum with marked trabecular and capsular thickening. There is also dilation of the venous sinuses and often periarterial haemorrhages, and the latter may become fibrosed and impregnated with deposits of iron pigments, forming the so-called Gandy-Gamna bodies.

The following cases which I studied recently illustrate some of the principal clinical and pathological features.

Mr. G. M., a white male aged 30 years was admitted to hospital in October, 1949, with an eleven years history of malaise, vomiting and jaundice. Two years before the final admission to hospital he had vomited blood, and at that time an enlarged liver and spleen were found, his red blood count was 3,400,000, and the white cell count 3,200. During his final stay in hospital half a bucketful of ascitic fluid was removed by paracentesis and a few days later he vomited up a large quantity of blood and died shortly afterwards.

Autopsy revealed several pints of a clear, straw-coloured fluid in the peritoneal cavity, and all the abdominal organs were covered with a coating of white coloured exudate, gumming the coils of bowel together. The stomach and intestines contained blood, which had come from a ruptured oesophageal varicosity. The veins of the portal system were greatly dilated, but there was no evidence of thrombus formation or of an endophlebitis. The spleen was markedly enlarged, weighing 1,000 grams, its surface was covered with

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exudate, and on cutting the organ across it had a firm consistency, a pinkish colour, and obvious fibrosis was present.

The liver was shrunken in size, weighing 900 grams, and it too had a surface coating of exudate. On cutting the liver across it showed the appearance of a typical portal cirrhosis. No other significant gross findings were noted. The histopathology showed marked splenic capsular and trabecular thickening, increase of reticulum, fibrosis of the Malpighian bodies, and dilation of the sinusoids which were pocked with red blood cells. The liver showed advanced fatty change in the liver cells, and a well marked portal cirrhosis.

The other organs were essentially normal.

In this case the condition was in an advanced stage before the patient came under observation, and the appearances described show the very great organ damage that occurs.

The next case is rather different in that the pathology was studied at an apparently early stage.

Mrs. R. B., a white female aged 35, was admitted to hospital in 1949, with a history of gradually increasing lassitude and a dragging feeling in the upper abdomen. Examination showed that she was anaemic, with a red cell count of 3,200,000, Haemoglobin 62%, white cell count 2,500 per cu. m.m. The liver was palpable and tender when pressed upon, and the spleen was also enlarged.

Splenectomy was carried out and at the same time the surgeon removed a small portion of liver for study. It was noted that this organ appeared normal on inspection and palpation at the operation. The spleen was enlarged, weighing 300 grams, and on histological examination the Malpighian bodies were largely replaced by proliferating endothelium. The sinusoidal walls showed a diffuse reticular fibrosis. These appearances probably represent the early stages of splenic disorganization in this condition. The liver biopsy showed a focal periportal infiltration of lymphocytes and a slight commencing fibrosis of the portal interstitial tissues, representing the early stage of a diffuse periportal fibrosis of cirrhosis.

This case is of interest because it illustrates the very early changes in the spleen, and demonstrates the fact that the liver, even at this early stage may also show microscopic evidence of commencing disease. The importance of liver biopsy is underlined here, because as can be readily appreciated, in the presence of liver fibrosis, no matter how slight and early the change may be, a much graver prognosis must be given. As far as I can ascertain, there is no case on record in which splenectomy has prevented the progress of a liver cirrhosis once that condition has commenced.

I have mentioned these two cases to remind you of the main findings in Banti subjects and now I propose to consider some of the possible causes of this condition.

It is generally accepted at the present time that a high portal blood pressure is associated with the changes in the liver and spleen. Whipple measured the splenic vein pressures when operating upon Banti cases, and compared the pressures with peripheral venous pressure in the same cases. His findings showed an increase of from two to five times splenic vein pressure over peripheral venous pressure. The main difficulty lies in explaining why this portal hypertension should occur, and in order to understand some of the modern views it is essential to review some points in the anatomy of the circulation of the liver and spleen.

Blood flows into the liver by two routes, the hepatic artery and the portal vein, the total amount lying between 1,800 to 2,100 litres in 24 hours according to Burton-Opitz, MacLeod and Pearce. Of this total blood flow about 60 percent goes through the hepatic artery. Within the liver, blood from branches of the hepatic artery and portal vein which lie at the periphery of the liver lobule, in Glisson's capsule, passes into sinusoids formed between the columns of liver cells, and empties into the central vein of the lobule. The central veins ultimately unite to form the hepatic vein emptying into the inferior vena cava. The portal system is made up of two parts, one arising from the stomach, spleen and descending colon, represented by the gastro-splenic vein, and the other from the duodenum, small intestine, pancreas, ascending and transverse colon through the superior mesenteric vein. Within the short portal vein the blood of the two tributaries remains unmixed, so that blood flowing from the superior mesenteric enters the right half of the liver, and blood from the gastro-splenic enters the left. Obstruction of the portal circulation leads to two types of collateral circulation owing to the separation of the two tributaries. Congestive changes originating in the right side of the liver cause a collateral circulation from the superior mesenteric vein through the inferior epigastric vein, producing a caput medusae in this area, and through the superior epigastric vein into the superior vena cava. From the left part of the liver a compensatory circulation is developed through the coronary veins of the stomach and the oesophageal veins, giving rise to oesophageal varicosities.

Within the spleen, the arterial branches run along the fibrous trabeculae until they reach a diameter of around 0.2 mm. when they pass into the splenic pulp, become surrounded by a sheath of lymphocytes, divide to form smaller, straight penicillar arteries and finally arterioles. The venous system commences with a very extensive network of wide, distensible sinuses lying in the red pulp. The method of communication between

the smallest arterial branches and the venous sinuses is not definitely known. According to Knisely, who studied the circulation in the exteriorized spleens of small living mammals by means of a transillumination technique, the system is a closed one. That is, there is a closed connection between the terminal arterioles and the venous sinuses, and in addition Knisely postulated a definite sphincter action whereby the flow of blood could be cut off, and storage within the sinuses brought about. MacKenzie, Whipple and Wintersteinder, using a similar though modified technique were unable to confirm Knisely's findings, and their observations favour the so-called open theory. This theory postulates that the splenic pulp spaces provide the only link between the arterial and venous systems within the spleen. Whipple states that individual pulp spaces are the most variable structures that can be observed in the spleen, and that they are tortuous, utterly irregular and inconstant channels, lined by fixed and wandering cells and by reticulum, forming a three dimensional system of channels intimately connected with one another by actual or potential passages. On the arterial side of this sponge-like structure the pulp spaces communicate with the arterial capillary ampullae of Thoma, whilst on the venous side the spaces converge upon the free openings of the venous sinuses.

Another circulatory feature which must be mentioned is the recognition within fairly recent years, of minute anastomoses directly connecting arterioles with venules, and which are of widespread existence in the body. These anastomoses were described in some detail by Clark and Clark who studied the circulation in transparent chambers in the ears of living rabbits. According to these workers the anastomoses arise as side branches from the terminal arterioles, and after a very short course run directly into a small venule. The muscular wall of these anastomotic cross connections is remarkably thick, and is particularly well supplied with vasomotor nerves. Observation on the living vessels shows that they contract vigorously on stimulation of the sympathetic nerves which supply them, and the thick muscular coat of the anastomosis is to be regarded functionally as a sphincter. When it contracts the blood is directed along the arteriole into the capillary bed, when it relaxes the blood is by-passed directly into a venule, and the pressure is raised in that structure. The importance of this lies in the fact that it is not only in the rabbit's ear that such structures are present, they also exist in the mucous membrane of the small intestine of man. According to Spanner, one square centimeter of the mucous membrane of the small intestine contains 600 such anastomoses, so that with each heart-beat it is possible that numerous shots of arterial blood enter the portal system. Indeed some observers such as Grant and Bland believe that this mechanism is responsible for the maintenance of portal blood flow. It is easy to visualize that opening of an undue number of these anastomoses might result in a marked and possibly sustained portal hypertension.

In the past various lesions of the portal system observed at autopsy have been held to be responsible for obstruction and possible hypertension within it. One variety is seen when there is an extension of the normal obliterative process of the umbilical vein into the portal vein, and in such cases symptoms may develop in very young infants. Others which may be mentioned include thrombosis, so-called cavernomatous transformation of the portal vein, and endophlebitis. Of 45 cases studied by MacMichael, thrombosis and endophlebitis was found in six. In twelve cases which I have personally studied fairly recently there was no evidence of this feature. MacMichael states that in some cases only microscopic evidence of endophlebitis may be found, and even then it may be of a very slight nature. The present view regards these happenings rather as an effect, not a cause of the portal hypertension. Certainly experimental ligation of the splenic vein does not give rise to a Banti spleen, indeed the reverse is the case, since the organ does not enlarge but shrinks. It is interesting to note too, that chronic passive hyperaemia, such as that occurring in cardiac failure, does not produce the Banti spleen. In such cases the spleen may be slightly enlarged, but the appearance of the congested spleen is quite unlike that of a typical Banti. The liver, of course, in chronic venous congestion may show a form of fibrosis sometimes referred to as cirrhosis, and one may well wonder why it is that the spleen is not also affected. May it not be that the liver sinusoids act as a buffering mechanism between the systemic and portal venous systems and that the liver therefore bears the heat and burden of the day. It would be interesting to have measurements of the portal venous pressures in human subjects suffering from chronic venous congestion. Some cases of portal or alcoholic cirrhosis of the liver show enlargement of the spleen, and in some of these the changes found in that organ resemble those seen in Banti spleens, but in others there are no such changes. One may speculate as to whether the underlying cause of the condition may not be one and the same and indeed Boyd has stated that we may conceive of a group of hepato-splenic fibroses in which, as a result of some toxic agent, a parenchymatous degeneration accompanied by fibrosis occurs, first it may be in the spleen, or first in the liver, in the former case giving Banti's splenomegaly, in the latter giving cirrhosis of the liver, just as in pernicious anaemia the initial lesions and

symptoms may be those of the haematopoietic system, or again, those of the central nervous system. In view of these remarks it is interesting to note that in the disease Egyptian splenomegaly, in which there is progressive enlargement of the spleen with liver cirrhosis similar to that seen in Banti's cases, there is a known causative factor, this being the protozoan parasite known as Schistosoma mansoni.

However, apart from the Egyptian disease no toxic agent has yet been identified in other Banti cases. Consideration of modern views on the portal system, and on the blood flow through the spleen suggests that the underlying cause may be a fault in haemodynamics. Earlier in this paper it was suggested that the arterio-venous anastomoses present in the small bowel might be a means whereby, if they were deranged, a considerable and even prolonged portal hypertension could be produced, since arterial blood would be poured or rather, shot, into the portal system. Ravenna in a recent study has suggested that the primary fault in the disease lies in the splenic arterioles which for some unexplained reason become unable to control the inflow of blood into the spleen. This results inevitably in a rise in portal pressure, leading to fibrosis of the liver and spleen. McMichael suggested that vasodilatation of the hepatic artery and spasm of the portal vessels were possible causes of increased portal pressure, and has brought forward experimental evidence in support of his theory. The fact that vasodilatation may play a part in the production of portal hypertension is also supported by cases in which Banti splenomegaly develops following an injury. For example, Ravenna quotes the case of a girl who at the age of 3½ years fell out of bed and immediately afterwards complained of violent abdominal pain. Two weeks later she had an attack of haematemesis, which recurred many times in the following years. At the age of 11 an enlarged Banti spleen was removed, but the patient died within a year of the operation from further gastric haemorrhages. At autopsy no obstruction to the blood flow was found in the portal system or in the liver. A similar case quoted by Cellina was that of a healthy boy, aged 9 years, who fell and received a violent blow on the abdomen. Within twelve hours he had a severe haematemesis, and on examination at that time splenomegaly, anemia and leucopenia were found. Two years later a further haematemesis proved fatal. Autopsy revealed a Banti spleen, but there was no obstruction to the portal flow. Although in these cases it is not possible to completely rule out the possibility that splenomegaly was in fact present prior to the injury, the fact that no portal obstruction was demonstrable leads one to consider seriously whether the trauma might not have produced a nervous lesion which gave rise to splenic congestion. Compression or severance of the splenic nerves running alongside the splenic artery would cause a vasomotor paralysis and subsequent active hyperaemia of the spleen. This type of splenomegaly may be demonstrated experimentally by denervation of the spleen.

Recently other predisposing factors in this condition have been described. Fisher and Zukerman have reported two cases of prolonged infectious hepatitis in which Banti's syndrome developed. The first case, a female, aged 31, had signs of infectious hepatitis for upwards of a year, and two years later she presented all the cardinal features of hepato-lineal fibrosis. The second case, that of a woman aged 50, had infectious hepatitis for a period of several months, followed six months later by the development of Banti's syndrome. These cases underline the fact that infectious hepatitis patients, particularly if the disease has been prolonged, should be carefully watched for signs of portal hypertension.

A recent and very interesting observation has recently been made by Nussey. This author suggests that the Rh factor may be concerned in some cases of Banti's disease. Regarding the actual mechanism of such an event Nussey cannot give much of an explanation, except to state that perhaps the Rh antibody, in addition to blood destruction, may able to fix upon somatic cells and cause damage within them. Nevertheless, the family history which he gives is an interesting and thought-provoking one. The family consisted of an Rh negative mother, a heterozygous Rh positive father and five children. The first child was Rh negative and was in normal health. The second child was Rh positive and was also normal, an understandable fact, since this child was the first who could have sensitized his mother. The next three children of the marriage were all Rh positive, and the interesting fact is that they all developed enlarged spleens and livers and attacks of haematemesis. None of the children suffered from jaundice at birth, but this does not rule out the possibility of erythroblastosis, since as Vaughan has pointed out, there does not appear to be any correlation between the incidence of kernicterus and the amount of blood destruction in such cases. In fact kernicterus may occur in children who have never been jaundiced as was pointed out years ago by Sir Leonard Parsons.

From all these various facts which I have mentioned one thing is clear, and that is that in the present state of our knowledge the disease which Banti originally described cannot be regarded as a separate disease entity. It is far better referred to for the present as a syndrome, but it may be that with further advances in knowledge we may find that there is in some cases one underlying

aetiology, and the condition may emerge again as "Banti's Disease."

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CASE HISTORIES

Tularemia in Manitoba

Andre L. Molgat, M.D.

In early December, 1949, a male patient, E. T., aged 48, came for advice concerning a gland in his right axilla which appeared to him to be larger than normal. There were no accompanying symptoms at the time. This gland was approximately the size of a large pea, slightly painful on pressure, well limited, non adherent to the skin or deep tissues. He could not recall having had any infection of the right hand or arm. On examination several hangnails were found, one of which was reddened and inflamed. This gland was inflammatory in appearance and there was no reason to suspect any neoplastic growth. He was, of course, given the usual precautionary instructions to return and be re-examined if there was any new development or any change in the appearance of the gland.

Until the patient returned two months later the case had been dismissed as a benign inflammatory adenitis. On February 4th he gave the following history. He had not been well since his previous visit in December; the gland in his right axilla had been steadily increasing in size. He complained of weakness, general malaise and feverishness. This vague ill-feeling had been severe enough to keep him from doing his usual work. Examination disclosed a lump approximately two cms. in diameter in his right axilla. This lump was fluctuant and the skin covering it appeared normal. There was also a pea-sized nodule on the inner aspect of his right elbow. Both glands were painful on pressure and mobilization of the arm caused considerable discomfort. The patient's temperature was 101.1° F. The gland was incised and twenty ccs. of yellow fluid pus having no particular odor was obtained.

This patient has always done some trapping during the winter season. Since traps are usually baited with flesh from snowshoe rabbits, a specimen of blood was taken and sent in to the laboratory for an agglutination test for possible tularemia.

On February 9th Dr. Lansdowne advised us that the agglutination test was positive to a dilution of 1/1600. A second specimen of blood and, if possible, a specimen of pus for culture were requested. Laboratory examination of this blood showed agglutination positive for B. tularense 1/10,240.

When the patient returned on February 21st he was feeling much better but there remained a painful enlarged gland near his right elbow which had to be incised. The report on the blood taken on this occasion showed agglutination for B. tularense to a dilution of 1/1,280 as well as OX 19 positive 1/100 and B. abortus positive 1/1600.

Later reports showed that smears and cultures of pus taken from the right axillary gland on February 9th and of pus taken from the gland near the right elbow on February 21st were negative.

A few days after the incision of the second gland the patient returned actively to his work. On all visits except that of February 4th his temperature was found normal. All general symptoms and malaise left him late in February. He returned on March 20th, as asked, to give another blood sample. This last agglutination test was positive for B. tularense at a dilution of 1/640 (B. abortus 1/400, OX 19 1/50).

In view of the clinical picture and the successive positive agglutination tests, it would be reasonable to affirm that this is a case of tularemia in spite of the failure to recover the organism in cultures. Most bacteriologists agree that in face of suggestive clinical findings a serum agglutination to a dilution of 1/80 or over confirms the diagnosis of tularemia. A positive agglutination for B. abortus is frequently found in these cases since the antigenic structure of the organisms is similar.

Dr. Maxwell Bowman tells us that this is the first case of tularemia diagnosed in Manitoba. One case from Sprague, Manitoba, in 1946, was diagnosed in Minnesota and reported from there. A few cases have apparently been found since in The Pas district. It is quite probable that there are many such cases occurring annually in our province and that if our minds were open to this possibility when confronted with an adenitis, tularemia would cease to be considered an exotic disease.

Medico-Historical

Queen's Hotel and Winnipeg Doctors

Ross Mitchell

An ancient landmark is being wrecked. The posh hotel of early Winnipeg, the Queen's, at the corner of Portage Avenue and Notre Dame, will make way for the new Bank of Toronto building. Opened on January 1, 1880, it was at that time the finest hotel north of St. Paul. It had cost, what was for that time, the princely sum of $20,000. Its famous bar, 100 feet long with a floor covered with six inches of sawdust was boasted as the longest in Western Canada.

The Queen's link with medicine is the famous dinner given there on August 9th, 1889, by the doctors of Winnipeg to the doctors from the east and south on their way to the 22nd annual meeting of the Canadian Medical Association at Banff.

It was really an occasion to celebrate. The Canadian Medical Association, organized on Oct. 19th, in 1867, and almost coeval with Confederation, had heretofore held its annual meetings east of the Great Lakes. Only in 1886 was the Canadian Pacific Railway completed between Montreal and Vancouver. The fame of the hot springs of Banff in a setting of the grandest mountain scenery had spread with the completion of the railway. The ill-fated uprising of Riel and the Metis of the Saskatchewan in 1885, had focused the attention of the east on the Western Plains, and the medical profession had been well represented in Canada's military forces of that date. By any standard, it was a notable delegation of doctors and their wives which left Montreal on August 6th, to speed westward.

From far Sydney, Cape Breton, the Intercolonial brought doctors on its way from Halifax, Kentville, Pictou, Truro, Saint John, Quebec and other points. The United States sent a strong delegation from Philadelphia, New York, Cincinnati, Haverhill, Quincy, Dover and Port Huron. Doctors from St. Paul and Minneapolis came to Winnipeg by a newly built railway. The Montreal group comprised such notable men as Hingston, Buller, Shepherd, George Ross, the newly-elected president; James Ross, James Bell and Armstrong. H. P. Wright, the past president, joined the group at Ottawa, and on its way west, Geikie of Toronto, and others from Iroquois, Kingston, Toronto, Hamilton, Brantford, Barrie and Trenton. Many of the doctors were accompanied by their wives.

Meanwhile in Winnipeg a committee comprising James Lynch, chairman; James Patterson, and H. H. Chown, secretary, were hard at work completing arrangements. They requested the City Council to arrange for sufficient hacks to meet the train and to drive the guests to Government House. The finance committee said its appropriation was already spent, and that there would be no hacks. The Mayor, Thomas Ryan, offered to provide them at his own expense, but the doctors refused. This was the only incident that was not sweetness and light on the arrival of the train at Winnipeg on August 9th four hours late.

The Lieutenant-Governor, Dr. John Christian Schultz, and his wife, gave a garden party at Government House, which was attended not only by the visitors, but by Winnipeg's 400. The Manitoba Free Press reporter went all out in describing the garden party. The School of Infantry band played fifteen numbers, and provision was made for lawn tennis, croquet, and archery. Refreshments of every description were served. "Many of the guests exerted their muscles and their lungs in climbing to the top (of Government House) to get a glimpse of the city and its park-like surroundings. The day was clear and from their elevated position a distinct view of the country for twelve miles or more was obtainable on all sides, and the easterners were highly impressed with its beautiful surroundings."

On the evening of August 9th came the famous dinner. "Seldom if ever," wrote the reporter, "has the dining-room of the Queen's Hotel presented a more brilliant appearance. The tables were adorned with a profusion of flowers of rich and various colors, and the viands were prepared in a style to correspond. Those who participated in the dinner need not be told of its excellence and those who were absent will be happier if not told of all they missed."

The chair was most fittingly occupied by Dr. J. H. O'Donnell, "whose age as a practitioner in this province, his early and long connection with the General Hospital, and his efforts in securing legislation for the benefit of the medical profession certainly entitled him to that honor." The first vice-chairman was Dr. David Young of Lower Fort Garry, and the second vice-chairman, Dr. Alfred Codd. On the right of the chairman sat Dr. James Ross of Montreal, President of the Canadian Medical Association, and on his left; Honorable Thomas Greenway, Premier of Manitoba. Other distinguished guests were Mr. Justice Killam, Hudson's Bay Chief Commissioner Wrigley, Dean Grisdale, Mr. Goldwin Smith of Toronto, Chief Justice Taylor, Rev. Dr. George Bryce, Dr. Bulkley of New York, U.S. Consul Taylor, Dr. Hingston, Dr. McCallum, Dr. F. J. Shepherd, Bishop of Rupertsland; Rev. Father Drummond, Canon Matheson, Rev. Dr. John M. King, Rev.

Dr. Sparling, Superintendent of C.P.R. William Whyte. The guests in all numbered 106.

Taranto's Italian string band furnished music during the dinner and the speeches were interspersed with songs both in French and English.

The first toasts were the King and the President of the United States. Responding to the latter, Consul Taylor referred to a medicine feast of the Crees which he had attended over twenty years before. Next came a toast to the Governor-General and the Lieutenant-Governor.

The toast of the evening was "Our Guests" proposed by Dr. O'Donnell and responded to by Drs. Ross, Hingston, Geikie, Bulkley, representing the American Medical Association; Dr. Whittaker, Dr. Marcy, Dr. Stockwell, ex-president of the Michigan Medical Association of Philadelphia, and Professor Barker.

Dr. O'Donnell said that he had come to the Red River twenty years ago. In 1871 he introduced a bill under the name of the Provincial Medical Board of Manitoba. The members of that Board were Drs. C. J. Bird, J. C. Schultz, H. S. Beddome, J. H. O'Donnell and J. B. Campbell, who were at that time the only duly qualified physicians and surgeons practising in the province. Only Dr. Schultz and he remained, the others had passed on to the eternal unknown. He referred to Dr. William Cowan, Chief Factor Hudson's Bay Company, who was not engaged in practice. Now, he said, in 1889 there were over 100 regularly qualified physicians in Manitoba, and nearly as many more in the North West Territories. He hoped that some day the C.M.A. might meet in Winnipeg. He concluded with a purple passage: "Banff, one of the most beautiful spots on the continent, standing in its primeval rock-bound grandeur it presents to the visitor a typical romantic spot which fiction writers of the present century so love to dwell upon and as a summer resort is held in high esteem."

In replying Dr. James Ross said that it had been the desire of the Association to meet in Winnipeg but the rebellion had prevented the carrying out of this desire. He predicted that the meeting of Banff would be a great success and the most representative ever held. The holding of this meeting was the most important step ever taken towards the development of a National Association.

Dr. Bulkley brought greetings from the American Medical Association. Dr. Marcy referred to the railway progress of the last fifty years and to the prospects of the harbor of Hudson's Bay as suggested by the recent victory of Winnipeg oarsmen.

The toast to the Provincial Government and the Legislature of Manitoba was responded to by Honorable Thomas Greenway. He thought that doctors were entirely too scarce in this country. The medical profession had no member in the legislature. Manitoba was a great agricultural country of vast capabilities. Mr. Isaac Campbell, M.P.P., made reference to the action of the medical profession in establishing and maintaining a medical college.

Other toasts were to the Bench and Bar and to the Press. To the latter Mr. Goldwin Smith responded briefly. Dr. Ross proposed a toast to the Chairman and the meeting broke up at 2 o'clock in the morning.

For the hardier spirits there was a special train which left for Stony Mountain and Colonel Bedson's herd of buffalo at 9.30 a.m. At 12.30 p.m., August 10th, the party, augmented by several Winnipeg doctors, left for Banff.

The annual meeting was held in the Canadian Pacific Hotel at Banff on August 12th and 13th. It was decided to request the local provincial secretaries to ascertain the feeling of the medical societies of their Provinces on the subject of affiliation with the Association. A motion was passed asking the Dominion Government to investigate the climatic conditions of Banff. The first Alberta member to appear on an Association programme was Dr. George Allan Kennedy, who came to Alberta as a Mounted Police Surgeon. His topic was "The Climate of Southern Alberta."

Grandiloquence came easily to Westerners in those days. Dr. John Schultz, the Lieutenant-Governor of Manitoba, in a letter regretting his inability to be present at the meeting, first pointed out the historic association of the neighborhood. He then went on:

"I would ask my learned confreres, when the discussion of more scientific questions shall have been completed, to pause and reflect for a moment, that they are where for economic purposes Canada is widest, and no longer a mere arable strip on the banks of the St. Lawrence."

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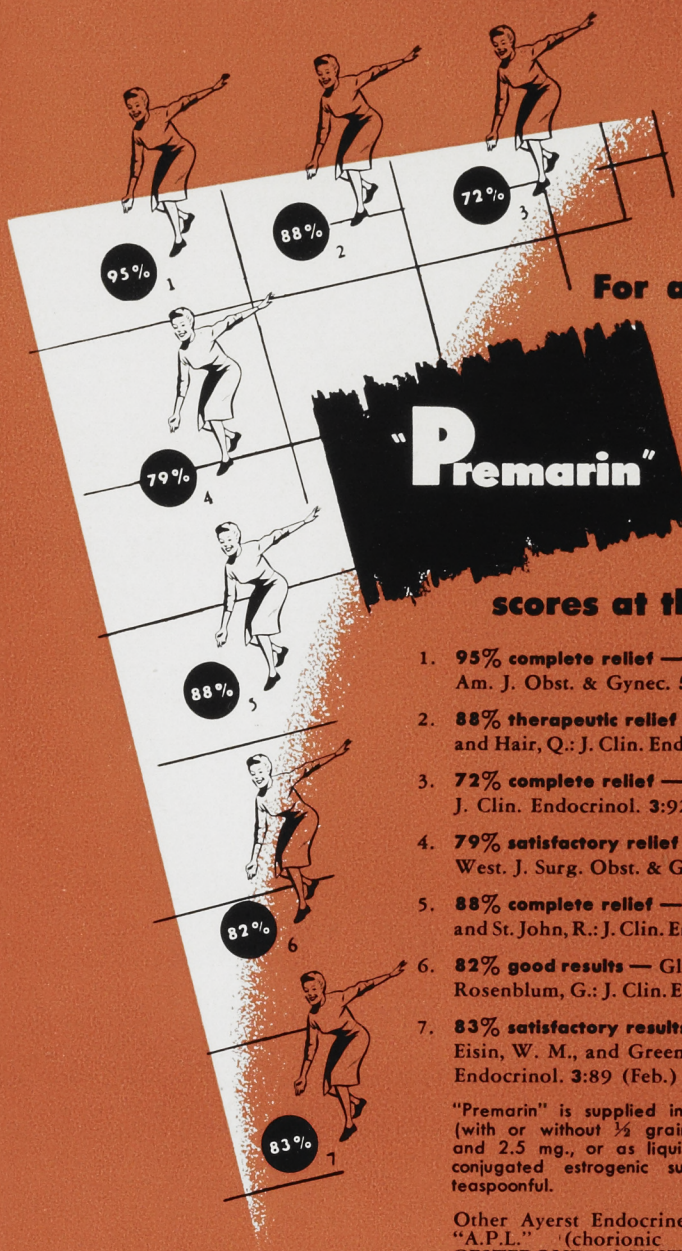

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Winnipeg Medical Society—Notice Board

Presidential Address

Delivered at the Annual Meeting of the Winnipeg Medical Society, June 9th, 1950, by Dr. T. E. Holland, Retiring President.

Rehabilitation of the Disabled

T. E. Holland, B.Sc., M.D., F.R.C.S. (Edin.), F.R.C.S. (C)

One of the most ominous as well as onerous prospects to anyone receiving the honour of Presidency of this Society I am sure must be that of having to prepare and deliver the annual address. Throughout the whole of a very pleasant year of service with and for one's fellow practitioners this meeting in May hangs like the shadow of impending doom! Not that one thinks with trepidation of the prospect of making a so-called address but one of necessity is forcibly reminded of the series of annual addresses given during recent years, each of which has been of very high calibre.

While casting about for a suitable subject—a procedure I may say which occupied many months —I ran across a copy of an address given by the late Dr. A. P. McKinnon to the Medical Students Association in 1935 entitled "A Third of a Century of Medical Progress in Winnipeg." Since this is the year 1950 I thought it a suitable time to review "A Half Century of Medical Progress" and interesting as such a review would be of the tremendous advances made during this time I soon realized that it was impossible of accomplishment in one short evening. In addition to many achievements arising out of experience in the First Great War we had a period preceding the Second World War highly prolific in medical conquests and leading up to the spectacular and far reaching advances accomplished during the war and the years immediately after. I, therefore, decided to confine my remarks to a specific subject—one which is of great interest to me and I think is of increasing interest to all members of the profession—the subject of "Rehabilitation of the Disabled."

Rehabilitation measures were developed to some extent following the First World War, but it was only during the last war the programme really came into its own. The Canadian Army soon after the outbreak of hostilities mobilized No.1 Canadian Convalescent Depot with the purpose of reconditioning ill or injured personnel after discharge from hospital. This unit functioned well, but it was soon realized that the magnitude of the struggle in which we were engaged demanded the utmost conservation of all available manpower and in August, 1942, a Convalescent Hospital was established at Alton in England. Patients came here direct from General Hospitals to have reconditioning and physical training and then went on to the Convalescent Depot where they had intensive hardening training before returning to full duty. By the beginning of 1944 with the imminence of invasion of Continental Europe, the urgent necessity of salvaging manpower to the fullest possible extent and the gratifying experience in retraining in the Convalescent Hospital it was decided to extend the facilities and in February 1944 the Convalescent Hospital was moved to a much larger Institution at Roman Way near Colchester. Here there was accommodation for 1,500 patients and an extensive programme of Rehabilitation and physical medicine was established. By this time No. 1 Canadian Convalescent Depot was in Italy where it fulfilled the function of Convalescent Hospital as well as retraining and hardening depot. This Unit, latterly under Command of Lt. Colonel Corrigan had a capacity of over 2,000 patients and after an average stay of 21 to 24 days was returning approximately 400 men a week to full Military Duty—a not inconsiderable contribution to reinforcement strength which at that time was at a seriously low level.

The value of a Rehabilitation Programme, however, was not only in getting men back to duty but in getting them back sooner, in shortening their disability time in General Hospitals, in Convalescent Hospitals, and all along the line, and also in helping many whose disabilities were such that they could never go back to their regular duties. Accordingly, if a man had an injury which was assessed as remediable to the extent of return to full duty he was routed along certain lines, but if his disability was such that he could not resume former duties, but could be trained for a less arduous job, his vocational training started immediately. The success of Rehabilitation lies in starting the programme immediately after the accident. If a soldier is allowed to lie in bed day after day with nothing to do but count the nails in the ceiling and wonder how he is going to be able to make his way in the world minus an arm or a leg his morale suffers to the extent that it may take months or years to recover but if he is started doing something either with his hands if he has them, or his brain, many serious problems which may well need psychiatric help for example may be averted. These Convalescent Units then worked

out a broad programme of training which varied widely for selected patients. The men not only got Military or Physical Training but they got educational and vocational training as well, according to requirements after assessment of their cases. They built Jeeps out of salvaged parts. They made toys, and they played competitive games. A man who, due to his injury could not again drive a truck or use a gun might be taught clerical work or any one of many vocations which would suit him for further service either within the army or in civilian life.

Similar developments occurred in the forces of other nations. The R.A.F. very early in the war organized a Rehabilitation Service which was in a large camp at Hoy Lake near Liverpool. This was the pride and joy of Mr. Watson-Jones and was known far and wide as "Watson-Jones's place." I had the pleasure of spending a day at this centre in 1945 and it really was an inspiring place, and the manpower and the man hours saved by their training was tremendous.

The American army also began to develop a service along these lines in 1942 and as usual they did it well and very extensively.

It was soon learned that the benefits of Rehabilitation could be extended not only to injuries but to illness as well. In the American army the average hospital time for measles for instance was cut from 18 to 11 days. Virus pneumonia cases as a test were divided into two groups. In group 1 they allowed nature to take its course and let the patients out of hospital when they and their doctors felt they were able to go. This group averaged 45 days in hospital and had a recurrence rate of 40%. In group 2 as soon as temperature had been normal for 48 hours the patients were started on a 12-day reconditioning programme. This started with a half an hour a day and worked up to a five hour day, the last of which included a 12-mile march. This group averaged only 12 days in hospital and their recurrence rate was only 3%[1].

I have previously mentioned the effect of Rehabilitation measures on morale and this cannot be too greatly emphasized. It has been stated that a patient's stay in hospital consists of 10% pain or discomfort and 90% sheer boredom, but with the advent of Rehabilitation measures—occupational therapy, physical therapy, educational and recreational features—this was greatly changed. A man who woke up to find he had an amputation or some other serious disability got a lift immediately he got into a Rehabilitation Programme and saw the progress of others with the same disability and realized that he too would be able to accomplish the same results. This was very well exemplified in the patients from the plastic surgery unit at East Grinstead where airmen and sailors who in many cases had been so severely burned as to lose almost all of the face and most of their hands were treated for long periods. At first these patients would not face the public but it soon became an unwritten law among the townspeople that no one noticed these unfortunates and they soon went their way in the town with equanimity and the realization that they would progress as others were doing.

The war disabilities have been and are being well taken care of by the Department of Veterans Affairs in an excellent scheme of Rehabilitation consisting of physio-therapy as well as psychological and psychiatric treatment, but after all, their number is small compared to the number of disabled civilians in this or any other country.

It is estimated that there are 23 million people in the United States who have disabilities due to injury, disease or psychological maladjustment. Of this number 2,500,000 are orthopaedic cases, 7,000,000 are arthritics, cardio-vascular cases number 7,000,000 and T.B. cases 750,000. The blind and the deaf are in addition to this[2]. We have no similar figures available in Canada, but if we divide these figures by about 15 we would probably not be far wrong. This would indicate about 1,500,000 sufferers from chronic disease or injury and in need of rehabilitation in Canada. The war produced 20,000 amputations in the U.S. Armed Forces but during the same time there were 120,000 amputations among civilians at home[3]. In the first four days after the Normandy Invasion 11,000 men were wounded, but in the same four days at home 25,000 civilians were injured in automobile accidents alone. There were 1,500 men blinded while on Military Service in the last war, but 60,000 civilians lost their sight during this period. 265,000 men were permanently disabled as a result of battle casualties during the war, but 1,250,000 civilians were permanently disabled by disease and accidents in the same period[4]. In 1946, a post-war year, 10,400,000 persons suffered disabling accidents and of these 370,000 were permanently disabled[5]. The service man is being looked after, but when the civilian leaves hospital he is on his own. There is no provision for teaching him to be self-supporting and he usually becomes the responsibility of friends or relatives if he has any or some State Institution where he continues to add to the economic burden of the country for the rest of his natural life.

We now see why this subject should be the direct concern of everyone of us here tonight. The experience in the Armed Forces has shown the value of Rehabilitation measures, not only in salvaging manpower but in teaching a large percentage of the chronically disabled to be self supporting and economically independent. In civilian life we have far greater numbers of disabled through injury and illness and the number is increasing all the time.

Due to our public health and sanitation measures life expectancy is increasing steadily as the years go by. A century and a half ago the average duration of life in England as compiled by life insurance companies was 28 years. In 1900 it was 35 years and now it is 65 years. In Canada the life expectancy for men is now 66 and for women 67. As people grow older they require more medical care. In 1900 the percentage of the population over 45 years of age was 17.8%, in 1940 it was 26.5%, and at this rate of increase it is calculated that by 1980 the number of people over 45 years of age will be 40.3%[7]. In 1940 the 26.5% of the population over 45 required one-half of the country's medical service, but in 1980 the number over 45 will constitute almost one-half of the population, and with an older age group we are bound to have more disabled people and if rehabilitation measures are not developed we will not have enough people in the country to look after the large number who will be incapable of self care. This may seem like looking to the dim distant future but 1980 is only 30 years away. There is great agitation now for more medical care, and our local government is busy spending large sums of money for diagnostic clinics and other measures which merely augment existing facilities but offers no contribution to the condition of affairs which we may expect to be in effect 30 years from now.

In the United States army a programme of convalescent training was started in 1942 by Dr. Howard A. Rusk which soon became adopted by all three services and has now become projected to civilian fields in the "Institute of Rehabilitation and Physical Medicine" of New York University with Dr. Rusk as Professor and Chairman of the department. Dr. Rusk calls Rehabilitation "The Third Phase of Medicine," the first two phases being prevention and treatment and the emphasis in the third phase is laid on the problem of getting the patient from "the bed to the job." If he has lost the function of some part of his body he is made fit through vocational guidance and training, psychology, job selection, etc., to make the best of what is left.

Rehabilitation and physical medicine programmes are being developed all over the United States now with gratifying results. An example of how the programme pays off medically, socially and economically is cited in the Veterans Administrative Hospital in Minneapolis. In a ward of 110 chronic neurological cases all veterans of World War I, many of whom had been in hospital up to 10 years and many of whom could not feed themselves and required nurses 24 hours a day, a Rehabilitation programme was instituted, and at the end of nine months intensive treatment—55 were able to go home capable of self care and able to do some kind of work, 45 were progressing satisfactorily and only 10 were found not suitable for rehabilitation. With a five-year expectancy for the 55 who were able to go home and a daily hospitalization cost of $12.00 rehabilitation of this one group saved the taxpayer $1,250,000[8].

This treatment costs money, but this is an example of how money is saved and not the least important gain is the freedom, independence and self-respect developed in the patient formerly doomed to a miserable institutional existence.

A survey of the Paraplegic Department at Deer Lodge Veterans Hospital, Winnipeg gives closely comparable results with the previously mentioned example. A total of 95 patients have been admitted for treatment, 79 have completed treatment and of these 52—or 66% are gainfully employed and have re-established themselves in their community. An interesting observation is the fact that for the first group of veterans admitted in 1945 the average hospital stay was 26 months. Those being admitted now average only 6 months in hospital and 2 months as out-patients, the reason being that they are now admitted and their rehabilitation started immediately after the accident.

These are not all Veterans—civilian paraplegics are treated at Deer Lodge Hospital as well due to the efforts of the Canadian Paraplegic Association. A survey of the Province of Manitoba indicates that there are about 300 paraplegics at present. The number arising yearly is not known, but civilian paraplegics admitted to Deer Lodge last year numbered 17. Their origin was as follows:

Industrial Accidents	6
Automobile Accidents	4
Farm Accidents	4
Diving Accidents or Sports	3

The cost of hospitalization here is $9.75 per day, and before admission of civilians the payment must be guaranteed by the Canadian Paraplegic Association who must raise the money by Government grants, etc. The Manitoba Government last year gave them a grant of $3,000. This would pay for 17 paraplegics for a period of about 18 days. The Ontario Division of the Canadian Paraplegic Association received a Provincial Grant of $65,000 and a City of Toronto grant of $9,000. The Province of Quebec pays the full cost. British Columbia pays the full cost plus a grant for administration. Saskatchewan pays the full cost. Manitoba gave them a grant of $3,000 and it is only 30 years until 1980!

Rehabilitation, however, is not only limited to institutional care but can be practised in many conditions by every general practitioner. Every general practitioner has **cardiac cases** for which physical medicine may be used. Cases of thrombosis used to kept in bed for three months or more. I believe they are now confined to bed for a shorter period, but there is probably some stage where the patient could be given graded exercises in bed

which would safely improve his general physical tone and shorten his convalescence. Time spent in bed is a serious deconditioner[9]. It takes twice as much protein to keep an individual in normal nitrogen balance the first six weeks he is in bed as it does if he is ambulatory, and it is almost impossible to keep him in normal calcium balance regardless of how much calcium or vitamin D he is given. Therefore careful exercise in bed may avoid excessive heart weakness as well as protein and calcium loss[1]. The deconditioning which results from confinement to bed may be largely avoided in all types of cases by early ambulation.

Everyone sees **arthritics** who range all the way from slight to total disability and for whom early supervised remedial exercises would be a godsend and would lessen their disability. Exercises should start even before the sedimentation rate is lowered. Activity may be encouraged to a point where pain does not last more than an hour after cessation of exercise. Such a programme results in less restriction of movement of joints, less stiffness and less pain[8].

Everyone sees **"Polio"** cases, which require prolonged and carefully supervised and graded remedial exercises. I visited the Rehabilitation ward at St. Mary's Hospital, Rochester where they have treated 245 cases from last year's epidemic and still have some 140 cases under treatment. These cases take a long time, and many may be treated at home.

Everyone sees cases of **Hemiplegia** and these I think are sadly neglected in that their Rehabilitation is not started immediately. Experience in Rehabilitation Centres in the United States has shown that approximately 90% of them can return to some sort of work with retraining. The Institute of Rehabilitation and Physical Medicine in New York advises the following regime for these cases. If the cause is thrombosis or embolism start simple rehabilitation measures 24 hours after return of consciousness. If the cause is haemorrhage the patient should be kept on bed activities only for the first three weeks and then be permitted to sit on the side of the bed. Two simple tests indicate whether the patient is likely to be able to walk again. 1. Can he move the arm on the affected side? As the arm is usually more severely affected than the leg, ability to move it will indicate that the leg can probably be used again. 2. Can he lift the affected leg 1" from the sheet? If this is possible he probably has sufficient quadriceps strength for retraining.

The following precautions should be carried out by the attending physician the first time he sees a hemiplegic case.

1. Place a pillow in the axilla to prevent abduction deformity of the shoulder.

2. Place a footboard at the bottom of the bed to prevent foot drop.

3. Place a sandbag along the outside of the affected leg to prevent outward rotation.

4. Start pulley therapy for the shoulder on the affected side to prevent "freezing" of the shoulder.

5. Quadriceps setting exercises to maintain muscle tone.

6. Tie a "U" rope to either bed post at the foot to encourage and help the patient to sit up in bed and learn balance.

7. Speech therapy to be started early, preferably by a special teacher.

8. Stand and support and balance by using the backs of two chairs and later learn to walk by sliding chairs along a smooth surface like the kitchen floor, using reciprocal motion, i.e., when the left foot is advanced the right chair is pushed forward and when the right foot is advanced the left chair is pushed forward.

9. Patient should lastly be taught the simple necessities of daily living such as turning door knobs. tying shoe laces, necktie, etc.[6], [8].

Cases undergoing **Amputation** can be conditioned physically and psychologically by their attending physician. The immediate post-operative period while the stump is being shrunk preparatory to fitting the prosthesis is very important and conditioning exercises should be carried out and joints kept active and free. For example, in the A.K. Amputation if the stump is elevated on a pillow as is frequently done and allowed to remain there for as long as two weeks a flexion deformity of the hip will occur which may take as long as six to eight weeks of hard painful work to get it back to normal and start walking exercises[10].

Tuberculosis is a disease which has always been treated by prolonged and complete rest. Results of a carefully organized Rehabilitation Programme carried out by Dr. A. D. Temple in the Veterans Hospital at St. Hyacinthe, Quebec, have been excellent. Dr. Temple believes that rehabilitation is just as important a part of treatment in getting the patient back to health and keeping him there as Pneumothorax or thoracoplasty. Medical, nursing, and rehabilitation staff all work as a unit. They review each case weekly, and decide if the patient should have more activity and more hardening up. Vocational exploration is carried out with the aid of a dozen workshops, in which more than 70 activities are available and also by visits to various industrial and commercial businesses in the town. Dr. Temple believes that this conditioning and training will cut down recurrence by 50%. It is estimated that 3,600 of the patients in Canadian Sanatoria are re-admissions. so that this is another instance of the effect of rehabilitation on the health of the patient and the cost to the State[11]. A very comprehensive programme of rehabilitation and vocational guidance and job selection is carried out in our own Sanatoria in Manitoba under the supervision of Mr. S.

Sparling. This programme has produced wonderful results in raising morale and improving results.

Rehabilitation in Industry is one of the most important aspects of this very broad subject. Previous to the last war there was always an objection to hiring handicapped personnel for fear of increased accident ratios. They were considered more "accident prone." Many normal workers are more accident prone than others but that is due to something in their psychological makeup. Due to the manpower shortage during the war many people with disabilities got jobs for the first time since their disabling accident, and the old idea was exploded. With selective job placement it was found that handicapped people had less labour-turnover, less absenteeism, fewer accidents and equal or higher production rates. In a survey of 87 industrial plants in the United States each having from 50 to 12,000 handicapped workers, 56% found that the accident rate of the handicapped was lower than in the ablebodied. 42% showed the rate the same as in ablebodied, and in only 2% was the rate higher. Industrial Firms have achieved good results from well organized and supervised safety programmes, but a handicapped person does not need a safety programme to teach him the value of protecting what he has left.

Rehabilitation in industry, however, goes much further than selective job placement for those with disabilities. It involves the "Third Phase of Medicine"—taking the injured man from the bed to the job with the object of:

(1) Shortening his disability time with attendant saving of money to the man, his employer and the community in general.

(2) Insuring that there is no permanent disability or minimizing it to the utmost.

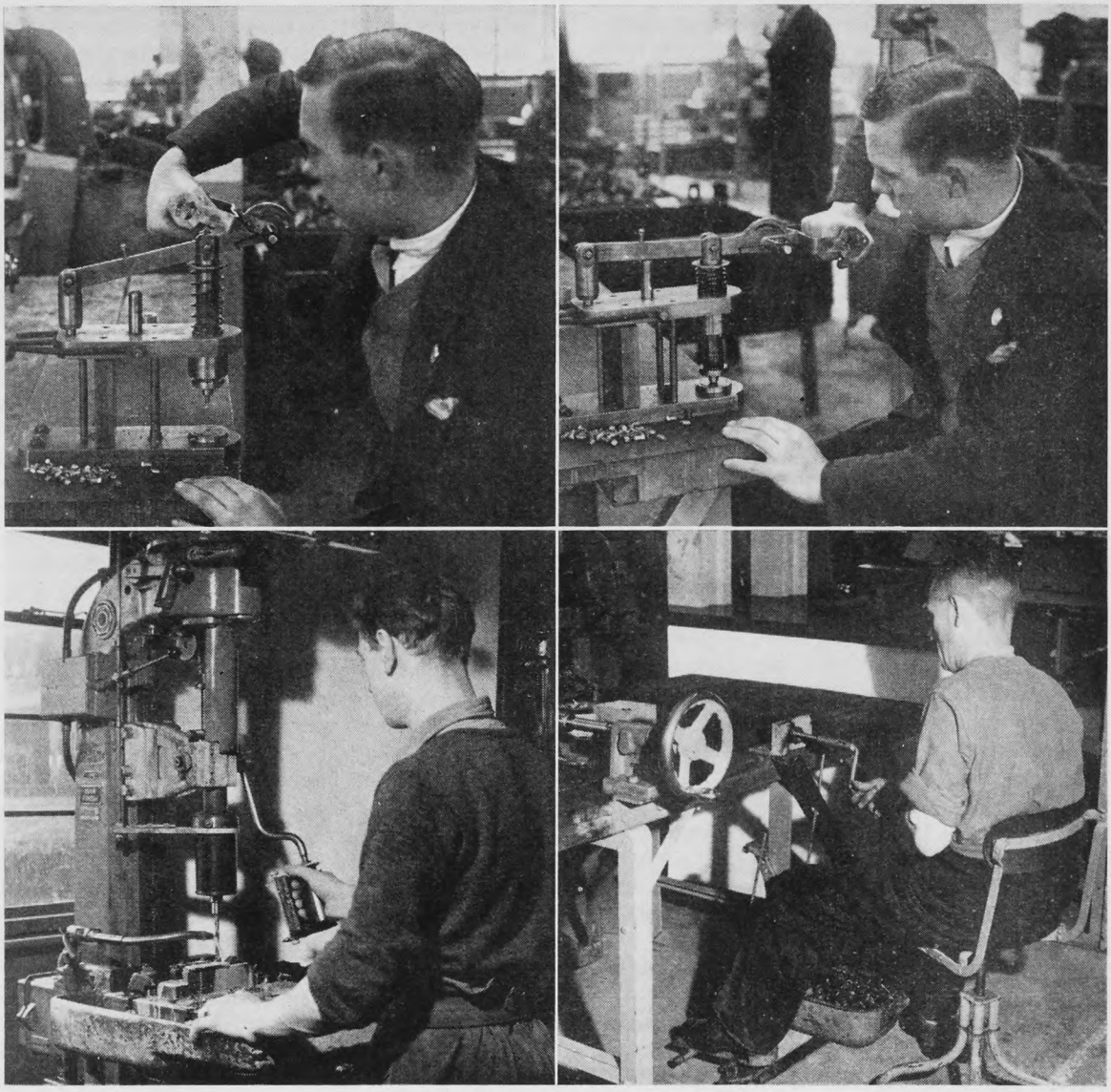
The workman's criterion of successful treatment is his ability to do his former job.

One of the most interesting developments in Rehabilitation of Industrial Injuries is the **Rehabilitation Shop** which has been started in England both at Austin Motors in Birmingham and Vauxhall Motors at Luton. I visited the Austin Motors Shop in 1945. It was developed during the war with a view to getting men back to work faster, to lessening their disabilities, and to encouraging production during the period between the bed and the job. Here men with disabilities are brought back very early in their convalescence—in fact some lose no time at all—are put to work on standard machines which have been adapted to their particular need and by repetitive movements exercise stiff fingers or other joints 2,000 to 10,000 times a day all the while their attention being rivetted on the job they are doing and forgetting about their disability. Work is allocated from the regular work in the shop; the men carry on useful pursuits in familiar surroundings, and by the simple expedient of going through the necessary movements in operating the machine they recondition themselves in a much shorter time and much more effectively than sitting at home going through prescribed exercises. The shop is in charge of a skilled shop engineer who is very clever in adapting a machine to suit the individual need as advised by the Consulting Surgeon and Industrial Medical Officer. The men are engaged in productive work and get full pay or almost full pay. In the Austin shop they are given a little more than the compensation rate but a little less than full pay, so that there is still an incentive to get back to their regular job with full pay.

The greatest factors in prolonging disability are swelling and joint stiffness. Swelling in periarticular structures should be met immediately after an injury by elevation of the limb to avoid deposition of products in the neighborhood of joints which cause stiffness later. Stiffness of joints which do not require immobilization should be avoided by exercises in bed initiated immediately after an injury. Stiffness in joints immobilized by splints or plaster in treatment of fractures, cut tendons, etc., must be combatted by graded exercises as soon as a satisfactory stage of healing has been reached.

One of the most adaptable machines in the Rehabilitation Shop is the single spindle drill press. Special handles are fitted to either the right or left side and most movements of hand, arm or shoulder can be obtained. Many other machines are similarly adapted. The Austin Shop accommodated 30 men and served a works which employed 37,000 men. It was 162 feet long by 45 feet wide, and cost of installation and its first year of operation was £7,500. They estimated, however, that they saved 75% of its cost in the first year in saving of man hours, partial permanent disability, and in increased production. The second year the saving advanced to 85% and they expected it would pay for itself in five years.

Vauxhall Motors were carrying on a similar programme of rehabilitation but at that time it was not all concentrated in one shop. This has since been done and in 1946 they opened a Rehabilitation Shop under the supervision of Mr. L. W. Plewes, Consultant Orthopaedic Surgeon, Luton and Dunstable Hospital, Luton, Beds. This shop accommodates up to 60 men serving an employee strength of 12,000. In addition to works injuries they have also accommodated a few veterans, and also some of their employees for injuries or other conditions which occurred away from work. They have a Rehabilitation Team consisting of Consulting Orthopaedic and Plastic Surgeons, Industrial Medical Officer, a Rehabilitation Superintendent who is a Shop Engineer as at



Upper Right. Upper Left

Hand press (spring loaded) showing range of movement for mobilization of wrist joint in later stages of recovery for fractured scaphoid, Colles' fracture, etc.

Lower Left.

Padded grip attached to single spindle drill press designed to assist passive and active flexion of the fingers in a case of cut flexor tendons.

Lower Right.

Foot operated bench vise for reaming. This device is designed to mobilize ankle joints.

Vauxhall Motors Retaining Shop. Courtesy of Mr. L. W. Plewes.

Austin's and an Industrial Physio-Therapist. This team reviews all cases once a week and may advise changes in a machine to suit a patient as he improves or may decide if he needs further physio-therapy before operating a machine[12].

Physio-therapy is considered a necessary and important adjunct to a scheme of this kind and the Physio-Therapy Department is situated close to the Re-training Shop. From a Physio-therapeutic standpoint it is a great advantage to be able to rely on long periods of controlled active exercise in the shop. On the other hand they have found that orthodox physio-therapy is necessary in 60% of cases. It is used for re-education of movements to a point where they can be used actively at work in such cases as joints after splinting, sutured tendons, etc. They feel at Luton that the indications for rest are far fewer than formerly supposed,

and their aim is to reduce immobilization to the minimum, and to encourage function in all structures which do not demand rest. This results in a noticeable absence of circulatory disorders and consequent more rapid healing of bone and soft tissues and associated reduction in joint stiffness and loss of muscle tone[13].

In the first 20 months after opening this shop 452 patients were treated—composed as follows:

Surgical	355	78.6%
Medical	72	15.9%
Psychological	25	5.5%

Average length of stay for all patients, 13 weeks.

Average length of stay for surgical patients, 6 weeks.

Disposal:

Return to full work, 382 or 85%.

Return to modified work, 70 or 15%.

Figures I and II give some idea of the results of this treatment in common injuries, compared to (a) average treatment outside of fracture clinics and (b) treatment in special fracture clinics.

FIGURE I

DIAGNOSIS	Vauxhall Patients 1945-1948 Accident and Non-works Accident Cases			Accident Cases Luton and Dunstable Hosp. Fracture Clinic 1945-1948		
	No. of Cases	Average Days Off Work	% Losing No Time	No. of Cases	Average Days Off Work	% Losing No Time
Potts Fracture	39.	18.9	15.	132.	32.9	2.
Colles Fracture	17.	3.9	80.	59.	22.4	10.
Fracture Scaphoid	30.	7.7	72.	55.	14.7	30.
Fracture Hallux	26.	5.0	54.	16.	24.5	10.
Operations for Internal Derangement of Knee Joint	12.	16.25	—	20.	31.5	—

Results of treatment of common injuries with the aid of rehabilitation measures as contrasted with results obtained in an excellent fracture clinic in a nearby hospital (L. W. Plewes).

FIGURE II

INJURY	B.M.A. Fracture Committee Report 1935		Cases Treated 1945-1948 Rehabilitation Shop
	Average Days off Work		Average Days off Work
	(1)	(2)	(3)
Potts Fracture	329	77	18.9
Colles Fracture	203	49	3.9
Scaphoid Fracture	322	77	7.7

(1) Cases not treated in ordinary Fracture Clinics.
(2) Cases Treated in Fracture Clinics of Liverpool and Manchester.
(3) Cases treated in Vauxhall Rehabilitation Scheme.

Employees have given this scheme their wholehearted co-operation, realizing as they do that it is designed to get them back to their regular jobs in the shortest possible time. Mr. Plewes points out that an Industrial Rehabilitation Service must be based on good surgical service contributed to by enlightened general practitioners who are prepared to accept new standards regarding fitness for modified or selected work[13].

As far as I know we have no similar programmes in Industrial Plants in Canada due mainly no doubt to the fact that the much smaller size of our Establishments would not seem to justify the expense involved and yet Rehabilitative measures can be carried out in modified degree by each one of us. Experience at the Austin and Vauxhall Motor Plants would indicate that industrial organizations in this country could save themselves large sums of money as well as promoting the morale and welfare of the employees.

Workmen's Compensation Boards are interested in rehabilitation but in many Provinces the cost does not seem to be justified. The Province of Ontario has a large centre at Malton for physical medicine and re-training which is working out very well. The Province of Alberta has such a centre and is about to build a new one, and I believe the British Columbia Board is about to do likewise.

The whole field of rehabilitation is one demanding our urgent attention. The North American Indians left those who were old and feeble to die by the wayside lest they impede the mobility and safety of the tribe. Today adequate care of the disabled is seen to be one of our major medical and social problems. It is a problem which we ourselves have created. Our advances in diagnostic, therapeutic and public health measures have produced an older age group, but as Dr. Bortz, past President of the American Medical Association, has stated "the society which fosters research to save human life cannot escape the responsibility of the life thus extended. It is for science not only to add years of life but more important to add life to the years."

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General Practitioners' Association of Manitoba

Presidential Address

Delivered at the Annual Meeting of the General Practitioners' Association of Manitoba, October 3rd, 1950, by Dr. Roy Martin, Retiring President.

Medicine, Then and Now

Mr. Chairman, Ladies and Gentlemen:

I have chosen for the topic of my address tonight the subject "Medicine, then and now," and the period referred to as "then" embraces those years from about 1884 when the Manitoba Medical College was founded until the early years of the twentieth century.

There is no intention on my part in this presentation to prove anything—rather it is my purpose to present some items which have been prominent in my medical practice, and which may prove interesting and instructive and even to some extent inspirational. That I may not wander too far from my chosen subject, I have elected to divide it into three parts as follows: the medical course then and now—the treatment of disease, then and now, and the position of the medical practitioner—then and now.

First, then, as to the course.

When the Mantoba Medical College was founded in 1884, with Dr. Kerr as Dean, the complete medical course occupied three years. The educational standing of entrance was Matriculation, and I may add the fees were nominal. I have checked on the subjects taught in those early days, and was surprised to find the following on the curriculum: Medicine, Surgery, Anatomy, Midwifery, Botany, Sanitary Science, Materia Medica, Therapeutics and Ophthalmology. The number of students registered for that first session was 15 and the number in attendance at each session from that date has ranged from 15 to over 300. When Dr. Kerr removed to Washington in 1886 he was succeeded by Dr. Good and he in turn by Drs. Jones, Chown, Prowse, Mathers and now Dr. L. G. Bell.

The first graduating class of six students received their degrees from the University in 1886.

The present educational standing for entrance to the Medical College is third year arts, with the full B.A. or B.Sc. standing being even more desirable. And the following subjects have been added since the organization of the College: Physiology, Biochemistry, Bacteriology, Immunology, Histology, Pathology, Social and Preventive medicine, Otolaryngology—what a formidable list. Further, the course has now lengthened till it covers a period of seven years. And I take what I consider is a justifiable pride in being a member of the first Medical Class in the Dominion of Canada to graduate on a five-year course—that graduation being in the year 1911.

One further change—even at the time of my graduation (1911) a year of interneship in the hospital was optional, and while several took advantage of this privilege many graduates went into active practice without any hospital training whatever. There cannot be any doubt that the change in this respect cannot be anything but beneficial.

Whatever opinion one may have as to the status of the old-time practitioner, (and I will have something to say on that matter later on) we must all admit that by any standard of comparison the recent graduate has, by virtue of his pre-medical education, by the completeness of his present course, and by the knowledge and experience gained as House Surgeon, an armamentarium, a perception of the facts of medicine, and a skill which was denied to members of the graduating classes during the early years of Manitoba Medical College History.

Secondly, I wish to deal for a few minutes with the second phase of my subject, i.e., the treatment of disease, **Then and Now.** I realize that one cannot even scratch the surface in the few minutes which is at my disposal—nevertheless probably the citation of a few examples may be of interest. And I have chosen for the first one the disease Diabetes. The memory of our old College Professor, Dr. J. R. Jones, professor of medicine and a keen student of the classics, is vividly before me. He began with an explanation of the word—dia—through and bete to flow. Then in his inimitable manner he recounted the classical symptoms of the disease—polyphagia, polydypsia and polyuria (excessive appetite, excessive thirst and excessive urination). Then he would spend a considerable time on the treatment of the complications leaving till last the treatment of the disease and which consisted chiefly in outlining a diet low in carbohydrates and fats—the result was that in a few short months the patients wasted away, and were no more. True, it was known that the disease exhibited a pathology disease of the islands of Langerhans in the pancreas, but it was not till many years later that those brilliant students, Banting and Best, gave us the product insulin which has revolutionized the treatment of this affliction. Imagine how helpless you would feel today, were you unable to balance a patient's diet and institute the administration of the proper amount of insulin.

Another disease which has shown a transformation in treatment is Lues. I can even remember when the patients in the hospital, carrying out their own treatment, would sit in forma-

tion as a rowing crew and each patient would rub the bare back of his comrade in front with Mercury Ointment, this being the established treatment at the turn of the century. A little later, as a matter of fact during my college days, the arsenicals were the "treatment de luxe," and "606" became widely known as a "cure" for this malady, although discussion of it was definitely taboo in polite company in those days and if it were mentioned at all it would be in hushed breath, or behind an open hand. Many cases indeed continued into the later stages with the patient being either too ignorant or too frightened to seek proper treatment. I need scarcely mention the transformation which has come with the advent of penicillin—I wonder, indeed if in the not too distant future the disease may be entirely eliminated. Is that too much to hope for.

May I say a word about Diphtheria. It was my privilege to be interne for about two months in the infectious wing of the Winnipeg General Hospital (now psycho). The wards were filled (about 50 beds) with Scarlet Fever and Diphtheria cases. I can still visualize these Diphtheria cases coming in (often at night) the tonsils and fauces literally covered with the pearly-gray membrane, and breathing difficult. It was my duty to swab these throats with Tt. Iodine, and as the patients coughed and sputtered I have since often wondered how I escaped developing the disease. Sometimes the throat was so nearly closed that intubation or tracheotomy was necessary. Incidentally one of the first sets I purchased when setting up private practice was an intubation set. In forty years practice since then I have never had occasion to use it. It is now for sale. O yes, we had anti-toxin in those days, and our first duty in these cases was to administer 2000 units. If the children were extremely ill, we would go all out and administer 3000 units. And that dose could indeed be given every 24 hours. Well, we simply were afraid to give larger doses. I understand now, probably because the anti-toxin is less toxic that amounts up to 25,000 units are given intravenously every four hours without untoward effects. Yes, we have made progress.

Then, of course, there was specific urethritis (again an unmentionable disease). It was my privilege to serve as locum tenens with a well-known doctor in a small town in Manitoba for a month the summer I graduated. My instructions from that kindly man in the technique of treating this disease were as follows: First, collect $15.00 as down payment. These fellows are notoriously poor risks. Then look. And he proceeded to a room at the back of his office where he had a glass container hanging on a stand—from it a rubber tube and on the end of it an irrigating nozzle. In a large winchester on the shelf was a solution of Potass. Permanganate, and I was instructed just how I should irrigate the urethras of the poor unfortunate victims once every other day with this solution. I haven't much doubt that in many cases we did a very fine job of pushing the intracellular diplococci well back along the urethra, even into the bladder.

Well, as you know there isn't much to it today. Oh, yes, one point which may be of interest to you. If we were frightened to give large doses of Diphtheria Antitoxin in those good old days, we haven't any such inhibitions with respect to our doses of Penicillin today. It is my privilege, as physician at our Headingly institution to treat occasionally chaps whom we call "Floaters," fellows with no definite residence. These men are often with us for only a week. The treatment? Yes, under the experienced supervision of Dr. Backman of the Department of Health and Public Welfare I administer to this type of patient 1,200,000 units of Penicillin in each hip at the same time. It never seems to bother the patients, in fact I have never seen any untoward symptoms developing from these heroic doses. Yes, we make progress.

A word or two about Tuberculosis. Again along about the turn of the century practically the only treatment was good food, especially eggs and milk, and plenty of fresh air, with rest. The X-ray was used sparingly if at all, and with the chief method of diagnosis the finding of Tubercle Bacilli in the sputum, there was little effort to isolate the cases which were severe and which had even gone on to cavitation from the rest. Well, I need scarcely bring to your attention the fact that with modern methods of diagnosis and the isolation of early cases, with the widespread use of Pneumo thorax, and still more recently that of Thoracoplasty, the death rate from Tuberculosis is getting down to a minimum. Is it too much to hope that in the not too distant future this disease may be entirely eradicated.

Lastly, I have chosen another disease where the results of treatment in these latter days is almost phenomenal. I refer to Pernicious anemia. Yes, we did have microscopes so the blood picture was well known even in the turn of the century. But we didn't have blood transfusions—in fact I must admit that in my interne year I never saw any solution given intravenously. What a change to the picture today. And for a moment may I digress to say that it was in my interne year that a sphygmomanometer was first brought into the General Hospital. Dr. John Macdonell (Prof. of Medicine) brought it to the institution for use in the medical wards and as I apparently was one of his favorite house surgeons he entrusted the instrument to my keeping. Well, there have been a lot of blood pressure instruments sold since that day.

But to get back to Pernicious Anemia. I don't need to suggest the almost brilliant results which have been obtained from the use of liver extract in this disease and the consequently astounding change in the prognosis of this affection.

In conclusion, is it fair to predict that with the brilliant results achieved in these six diseases I have but mentioned they foreshadow at least, as great, if not greater results which may be obtained in the days which lie not too far ahead. Finally, I would like to discuss briefly the status of the physician then and now: his position, if you will, in the world in which he moved. And I must confess that here there must be less of dogmatism: in some cases at least I am going to ask questions and leave them to you to answer.

May I begin by a very homely incident. About a month ago I motored out on a Sunday evening to the town of Morris, to enjoy a drive and a dinner at the local hostelry. And as I sat there in that hotel dining room (it was one of those hotels which still thinks enough of it's guests to provide a dining room as well as a bedrooms and a beer parlor) my mind went back to a summer just forty years ago, when again I was a locum tenens in a Manitoba town while the local medico was holidaying, and in the hotel in that town I was given the "head place" at the "head table," My ego was so expanded that I really felt I had arrived. Needless to say that dream has been punctured numberless times since then, but at least for that period I was literally sitting on top of the world. And I believe I am only stating a fact when I say that the practitioner of that early date, the "family doctor" as he was affectionately called did occupy a unique place in the hearts and lives of the members of the community in which he lived. May I quote two or three paragraphs from the August number of that little publication, "The Canadian Doctor," in which a daughter pays tribute to her father who has just completed fifty years as a general practitioner. She says in part· "As a start. I have never known a time when a patient has called our number and has not talked with someone who could tell him where you were, when you would be back and what to do meanwhile. This has been your devotion and mother's to what you both consider a thing of such utter importance that your entire living, so far as I can remember has been moulded by it, dedicated to it, and steeped in it to the utmost.

I have seen you at Sunday dinner when a roast was brought in, and the phone would ring, as you answered it, asking a few questions you would close with the familiar words, "Very well, I'll be right over." It was clearly understood by all of us that you were first and foremost a physician. on whom the general public had an undisputed claim. I have never seen you debate the matter or weigh the pros and cons. Some one needed you and you went." And then this closing tribute from an editorial in a medical journal, "Perhaps the near past always looks like a golden age. Certainly medicine was scientifically backward in the first decade of the century. At least, so it seems by comparison with medical science today. They had to treat diphtheria without anti-toxin, pneumonia without the sulfonamides and suppuratine infection without penicillin. But in those days one never heard that we ought to have state medicine, that a medical society was a trust and that physicians were out to gouge the public. We have so many magnificent accessories to scientific practice today, that maybe we don't need anything else. Our fathers didn't have many scientific aids, so they tried to make up their science by their art. By modern standards, they had so little to give by way of drugs and technic. So they gave of themselves."

I wonder if it would be a presumption on my part if I should offer a few words of advice especially to the recent graduate. Perhaps we should first ask, "Does the present system of medical practice merit the same confidence on the part of the public as that of a few decades ago?" There is general agreement that the teachings of the university as at present tends to the development of a large percentage of specialists. And along with the development of specialties is the tendency to streamline the practice. Again may I speak of my bi-weekly trips to Headingly. Far out along Portage Avenue is a drug store. On one side of the building is a huge sign, "It's a long tramp to the next drug store," with a painting of that same tramp extending almost from the ground to the eaves. On the front of the drug store two words are painted in large letters, "Strictly Ethical." And then the most intriguing sign of all: "Hours—1 to 6. Never before. Never after." I wonder if there isn't too much tendency toward that trend in modern practice today. Speaking this morning to a prominent legislator I asked, "What is your attitude to modern medical practice today," and without hesitation he replied, "Oh, for the good old days of the general practitioner, when a person could get a doctor if he needed one." Is that opinion shared by the general public today? Is that opinion justified?

Now I must close. And in so doing may I thank the members of the General Practitioners Association for the privilege of acting as their executive head during the past year. The friendship and loyalty of the members of the executive have meant much to me, and I shall treasure our association in the work of attempting to carry out the principles which are incorporated in our constitution.

To my successor, our incoming president and to his executive I extend sincere good wishes. In the words of Tiny Tim, "God Bless you all."

Medico-Literary

J. C. Hossack, M.D., C.M. (Man.)

Death of the Princess Charlotte

The sensation excited throughout the country by this melancholy event was of no ordinary description, and even at the present day it is still vividly remembered. It was indeed a most unexpected blow, the shining virtues, as well as the youth and beauty of the deceased, exciting an amount of affectionate commiseration, such as probably had never before attended the death of any royal personage in England. A parallel to the feeling thus excited has only appeared in recent years on the occasion of the demise of the consort of our beloved sovereign—the good Prince Albert.

In the Princess Charlotte, the whole hopes of the nation were centred. The only child of the Prince Regent and Caroline of Brunswick, she was regarded as the sole security for the lineal transmission to posterity of the British sceptre, her uncles, the Dukes of Clarence, Kent, Cumberland, and Cambridge, being then all unmarried. Well-grounded fears were entertained that through her death the inheritance of the crown might pass from the reigning family and devolve on a foreign and despotic dynasty. These apprehensions were dispelled by the subsequent marriage of the Duke of Kent, and the birth of the Princess Victoria, who, in her actual occupancy of the throne, has realized all the expectations which the nation had been led to entertain from the anticipated accession of her cousin.

In May, 1816, the Princess Charlotte was married to Prince Leopold of Saxe-Coburg. Their union had been the result of mutual attachment, not of political expediency, and in the calm tranquillity of domestic life, they enjoyed a degree of happiness such as has not often been the lot of royal personages. The princess's approaching confinement was looked forward to by the nation with affectionate interest, but without the least apprehensions as to the result. Early in the morning of Tuesday the 4th of November, she was taken ill, and expresses were sent off to the great officers of state, including the Archbishop of Canterbury and the Lord Chancellor, who immediately attended. Everything seemed to go on favourably till the evening of the following day (Wednesday), when at nine o'clock the princess was delivered of a stillborn child. This melancholy circumstance, however, did not appear to affect the princess so seriously as to give any cause for alarm, and about midnight it was deemed expedient to leave her to repose, and the attentions of the nurse, Mrs. Griffiths. Ere half an hour elapsed the latter observed such an alarming change in her patient, that she at once summoned Prince Leopold and the medical attendants, who hurried to the chamber. The princess became rapidly worse, and in about two hours expired.

After the grief of the nation had somewhat subsided, the feeling of sorrow was succeeded by one of anger. It was said that the medical attendants of the princess had mismanaged the case, and a carelessness and neglect, it was affirmed, had been shown which would have been scandalous had the fate of the humblest peasant-woman been concerned. Extreme caution must be observed in dealing with these popular reports, considering the general propensity in human nature to slander, and the tendency to find in the deaths of eminent personages food for excitement and marvel. There really appears to have been some blundering in the case, but that this was the occasion of the princess's death, we have no warrant for believing. It is a curious circumstance, that Sir Richard Croft, the physician against whom the public odium was chiefly directed, committed suicide ere many months had elapsed.

* * *

In these days of unions, strikes, and the general idea that Jack is not only as good as his master but even better, it is interesting to read how certain seamen took their responsibilities a century and a half ago. (Ed.).

A Sailor's Letter

When Louis XVIII, under the title of the Count de Lille, was obliged to quit the continent after the peace of Tilsit, and take refuge in England, he landed at Yarmouth from the Swedish frigate Freya, and was rowed ashore by a boat's crew from H.M.S. Majestic. Pleased with the attention shown him, the royal exile left fifteen guineas as a guerdon to the men to drink his health. The honest tars, in obedience to an order which had formerly been issued on the subject of taking money from strangers, refused to avail themselves of this munificence. The present case, however, being rather an exceptional one, the men held "a talk" on the matter, when they resolved to transmit to Admiral Russell the letter, of which the following is a literal copy:

Majestic, 6th of November, 1807.

Please your Honour:

We holded a talk about that there £15 that was sent us, and hope no offence, your honour. We don't like to take it, because, as how, we knows fast enuff, that it was the true king of France that went with your honour in the boat, and that he and our own noble, king, God bless 'em both, and

give every one his right, is good friends now; and besides that, your honour gived an order, long ago, not to take money from no body, and we never did take none; and Mr. Leneve, that steered your honour and that there king, says he won't have no hand in it, and so does Andrew Young, the proper coxen; and we hopes no offence—so we all, one and all, begs not to take it at all. So no more at present. From your honour's dutiful servants."

(Signed) "Andrew Young, Coxen; James Mann, Lewis Bryan, James Lord, James Hood, W. Edwards, Jan. Holshaw, Thomas Laurie, Thomas Simineers, Thomas Kesane, Simon Duft, W. Fairclough· John Cherchil, Thomas Laurence, Jacob Gabriel, William Muzzy."

How the admiral responded to this communication, we are not informed, but it is to be hoped that the worthy tars were eventually permitted to share among them the gift from Louis. As a specimen of blunt and unadorned honesty, the above composition is perhaps unrivalled.

—From the Book of Days.

Report and Comments on the Red Cross Blood Bank, August, 1950

	Elective and Urgent				Emergency	
Name of Hospital	Issued	Used	Returned Unused	No. of Transfusions	Bottles Used	No. of Transfusions
Winnipeg General	793½	411	382½	220	41½	35
St. Boniface	325½	171½	154	103	31	27
Misericordia	217½	125½	92	81	14	12
Grace	119	76½	42½	57	3	3
Deer Lodge	58	45	13	30	3	3
Victoria	17	11	6	7	...	...
St. Joseph's	54	40	14	21	5	5
Concordia	15	8	7	6	...	...
Children's	16	14	2	22	2	2
Shriners	4	3	1	3	...	...
Selkirk General	24	21	3	10	8	6
Others	36	25	11	13	25	20
Totals	1679½	952½	727	573	132½	113

Comments

During August 1,369 bottles of blood were collected from donors and 1,085 bottles were used for patients. Yet, even with a surplus of nearly 300 bottles of blood, it was at times difficult to meet all resquests from the hospitals. By far the most important factor in causing this highly unsatisfactory state of affairs is brought out by comparison of the number of bottles issued (1,792) and the number of bottles actually used (1,085). In other words, roughly one bottle out of every three issued from this depot is not actually used and, during the period of time when the bottle is lying in the hospital refrigerator, it is out of general circulation. If the medical men in Winnipeg wish always to have blood available in the bank for their use this ratio of "returned unused" blood simply **must** be lowered.

The practical steps to be taken are: (1) to ensure prompt return of unused blood to the depot, ideally within 48 hours, and (2) to refrain from ordering an undue quantity of blood "just in case" some unlikely contingency may arise. It is far better to order a smaller amount and to know that the depot can respond rapidly to any further demand than to follow the present trend which leaves the bank in a precarious position. It is obvious from our records that the number of occasions on which the extra blood ordered is actually used is very small indeed and, although it would be nice to be able to allow for such rare instances by having blood present in the hospital refrigerator, such a practice in effect makes it most difficult to keep up a steady supply to the majority of patients while safeguarding the interests of a very small minority.

Based upon experience of other depots we should not be satisfied until the amount of blood returned unused drops to below 10% of the total number of bottles issued.

Cecil Harris, B.Sc., M.D., M.R.C.P.,
Provincial Medical Director.

September, 1950.

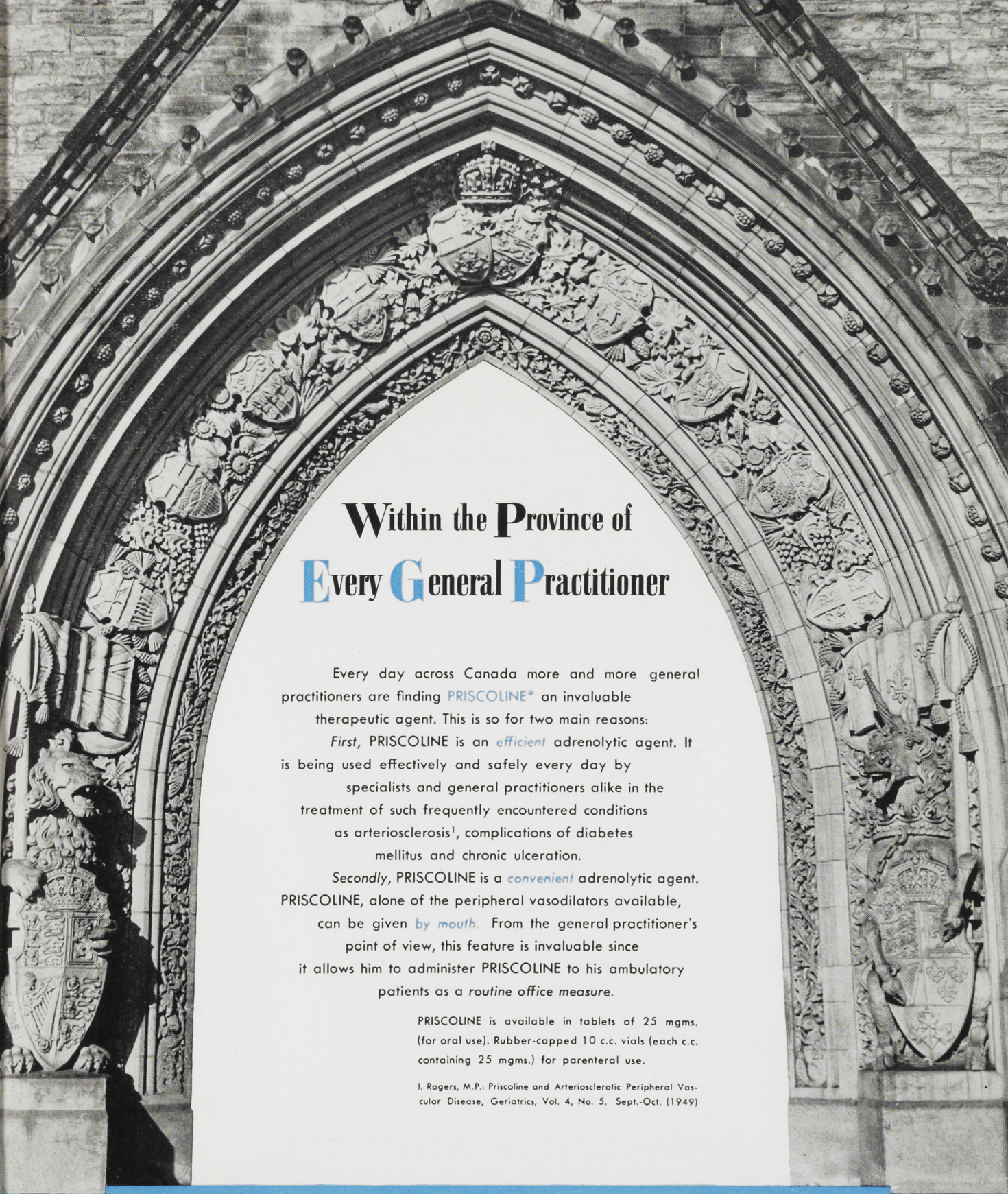
The Shortage of Medical Officers Canadian Armed Forces

The formation of the Special Force Brigade Group for Korea has involved a commitment for 25 additional medical officers. To date there have only been four volunteers. To fill in some of the gaps a number of active force medical officers have been seconded for duty with this force. This has left a hole in the already short staffed R.C.A.M.C. There is now an urgent need for physicians in military camps in Canada, either appointed to the army or employed on a locum tenens basis.

Present requirements for the Special Force are:

2 Graded Surgeons for F.S.T.
2 Graded Anaesthetists for F.S.T.
1 Medical Officer for F.T.T.
5 Medical Officers for F.D.S.
1 Major (experienced) for 25 Fd. Armb.
9 General duty Captains.

The Canadian Force being sent abroad is a volunteer force. They will likely be involved in active operations. It is considered that the medical profession of Canada has an implied responsibility in seeing that the Canadian troops in action have a satisfactory Medical Service. Have you thought of your individual responsibility in this connection? Further information may be secured from the Command Medical Office, Fort Osborne Barracks.



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1. Rogers, M.P.: Priscoline and Arteriosclerotic Peripheral Vascular Disease, Geriatrics, Vol. 4, No. 5. Sept.-Oct. (1949)

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EDITORIAL

J. C. Hossack, M.D., C.M. (Man.), Editor

More About Resolutions

Last month we made some comment on the C.M.A. Resolution on "General Practitioner Licenses," which, it may be remembered, began thus: "Whereas the medical profession is subject to much criticism through practitioners attempting procedures for which they have been inadequately trained."

Being curious to learn to what (if any) extent local practitioners were taking unjustifiable liberties with their patients we questioned some of our anaesthetist friends who work in hospitals wherein a very large part of the surgery is done by men in general practice. We asked: Were many operations attempted that were beyond the training and competence of the operators? The answer was "Very, very, very few." "Few," qualified by three veries is not a strong foundation for "much" criticism. Moreover, when asked: Are these transgressions scattered over a number of operators or are they confined to one or two? the answer was "Just one or two."

From this it would follow that here at least there is little basis for unfavourable criticism. The majority of operating practitioners, as we said before, are honest men whose practice is to safeguard, not jeopardise, their patients. The few who, ignorant of their limitations or in spite of these, persist in exceeding them, deserve and should receive more than mere censure.

On the other hand conscientious practitioners should be given every opportunity to increase their competence and experience. For this hospital connections are essential. Indeed one might go so far as to say for this purpose hospitals exist. They are the teaching places and learning places which make possible the bettering of practice in the office and in the home.

Another resolution carried at the Halifax meeting was, in essence, a request that the Royal College be asked to modify its requirements so that general practitioners might be encouraged to progress to certification. The two resolutions scarcely harmonize. The first would limit the practitioner's scope and opportunity, the second encourages him to enlarge the one and hope for enlargement of the other.

According to the third clause in the "License" resolution it is the medical staffs of hospitals who are most concerned about the practitioners' short comings. It is, however, quite and easily with the power of hospital staffs to remove the conditions to which they object and at the same time assist ambitious practitioners towards certification. They can do it by helping the practitioners who use their hospitals.

The functions of staff members are to treat and to teach. The patient comes first and, whenever possible, the patient should have that free choice of doctor upon which, under other circumstances, we are so emphatically insistant. Obviously on a staff ward this is not completely possible but it is often partially possible. That is, the practitioner who referred the patient and the staff doctor to whom the patient has been assigned can very often co-operate, and when this is possible they should co-operate. There should be no attempt to isolate the patient from the man he knows, and incidentally, the man who knows him. In our discussion upon the surgical morals of practitioners one anaesthetist volunteered that not infrequently the practitioner was a more satisfactory operator than the surgical specialist because the former "knew so much more about his patient."

It is this knowledge of the sick man as a person that makes the presence of the practitioner so desirable at the hospital bedside. The presence of a friend, whom he has learned to trust, gives comfort and support to the patient who has yet to learn to trust the stranger under whose care he has been placed. He wants so much more to remain a person than to become a case. So the man who has cared for that individual's various ailments over the years, who knows at first hand the circumstances of his environment and the intangibles that weigh so heavily even in the presence of structural change, such a man can contribute greatly to the proper understanding and care of any case. Therefore the doctors should help each other, the specialist with his greater knowledge of the part and the practitioner with his greater understanding of the whole, for together they can be of larger usefulness to the one who needs their help.

The first function of a staff member is to treat, the second is to teach. To teach students surely and, at meetings, to impart his knowledge to listening practitioners. But why only at meetings? Why not at the bedsides of those in whom the members of his audience have a direct and personal interest? As one practitioner put it "If the staff men would discuss cases with me as they do with the internes it would help me a lot."

A liaison of some degree does even now exist between practitioners, keenly interested in their referred patients and staff men anxious to help their colleagues, but it is quite informal. Some staff doctors feel that such an association might interfere with complete freedom of action. More-

over they lay great stress on uniformity of treatment for which reason they urge upon these patients close and undivided contact with the hospital attendant.

No one will deny the advantages (including statistical) of ensuring the following of a routine by having the patient under one man's care all the time. Therefore patients may be urged to report regularly and exclusively to the hospital doctor. But patients are usually less interested in the scientific aspects of their ailments than in their own convenience. And so it happens that they don't report but, per contra, stay at home until their malady forbids them to move. Then, and often at night, they call their "own" doctor, because no one, including the patient, expects the hospital specialist to turn out at dawn to visit an indigent and disobedient stranger.

Therefore the continuity of treatment is broken. The practitioner, most likely unaware of the scheme followed, substitutes his own routine. Later, if the patient returns to the hospital, the staff doctor is annoyed because his instructions were altered or ignored. It would have been infinitely better if the two doctors had been in contact all the time. Each could have helped and instructed the other. Not many staff men would object to this association. Indeed many would welcome it and the practitioners would find the experience valuable in the furtherance of their aspirations.

The above applies particularly to medical and chronic cases. The prerogatives of surgical internes have to be considered in surgical patients. Yet here also the background knowledge of the practitioner, his presence and association with the surgeon, are helpful alike to operator and patient; and, whether or not he dons gloves, he can be sure of profiting.

It would be definitely troublesome if every staff patient had two attendants, but the fact is that many staff cases drift in with no attachments and others are turned over to staff with a sigh of relief. But there is that residuum where attention is going to be split—those people who cannot of themselves meet their hospital expenses but whose condition demands hospital care and who will return to their regular doctor when the emergency is over. In such cases dual care would be of benefit to all concerned.

There are some who conscientiously believe that only in the closed hospital can there be maximal efficiency. But the excluded practitioners must of necessity suffer, and the welfare of the people as a whole lies in the hands of men in general practice. The whole plea of those in general practice is for opportunities to increase their knowledge, skill and efficiency. They cannot do that without hospital facilities. The cost of investigation often prevents a doctor from deriving full benefit from his study of private cases even in hospital. But a close liaison between staff men and practitioners would help both and would also tend to increase the standard of care.

Letters to The Editors

456 Waverley St.,
Winnipeg, Manitoba,
October 24th, 1950.

The Editor,
Manitoba Medical Review,
Winnipeg, Manitoba.

Dear Sir

Whither M.M.S.?

About ten years ago under the sponsorship of the Manitoba Medical Association, a prepayment medical service was started in Winnipeg. The objectives of the Manitoba Medical Service were twofold:

1. To fill the growing need for some type of prepaid health insurance for the large group of individuals who were finding it difficult or impossible to pay doctors' fees.

2. To indicate to Governmental bodies that prepayment plans sponsored and operated by medical organizations can adequately answer the needs of low income groups.

It would be well, at this ten-year point, to see just how far we have travelled in the direction of fulfilling our primary aims. Furthermore, it would be well to attempt to appraise the relation of our scheme to the current economic inflationary trend.

Up to the present time, aside from several non-essential changes, the M.M.S. plan has been altered in two very important particulars:

1. The rates for the complete service have been progressively increased. The result of this move is that a growing proportion of the population in the so-called "marginal economic groups" are now no longer able to afford this type of service.

2. The original income restrictions have been removed. The intent of these restrictions was to confine the membership in the M.M.S. to the low income groups, and pari passu to keep the higher income groups in the status of "private" patients. The result of this removal of income limitations is that a growing proportion of the population in the top economic levels is seeking and getting coverage by the M.M.S.

Current Economic Factors

The Free Press (October 3rd, 1950), quoted from the economist of "Saturday Night" as fol-

lows: "One of the unfortunate things about inflation is that . . . anybody who is not improving either his capital or his income in terms of dollars is actually **losing heavily.** All those investors who are more or less compelled to hold bonds because they are not qualified to judge the merits of different equities, or for some other reason, are doomed in such a period to suffer a serious loss. A widow who ten years ago was left an estate of $50,000 and has kept it entirely in good bonds still has $50,000, but her income even in cash has declined by reason of the fallen interest rate and its purchasing power is barely half of what it was."

The Editors of Fortune Magazine (September, 1950), have stated that the spiral of inflation is accelerating at such a rate that there is every likelihood that the purchasing power of the dollar will depreciate a further 25% within the next twelve months. And lastly, the Canadian Cost of Living Index has risen to 160, and is almost certain to rise further within the next two or three years.

It surely takes very little economic genius on our part to see the impact of increasing dollar devaluation—on our individual cost of operation, on our cost of living, and most important, on our efforts to achieve security for ourselves and our families by insurance or investment programmes.

What can the individual doctor do to protect himself against this progressive devaluation of the dollar in medical income?

Heretofore, the profession has been able (as have other groups in a free economy) to modify their fees in view of increasing costs of operation and of living. The profession, however, has had the advantage that the increase in fees was always selectively applied so that the person with the low income had very little, if any, increase in his fees; while it was the higher income groups who bore the major brunt of this rise. On the whole, this system worked well enough. No one was denied medical services, and individuals whose incomes were in the upper economic levels usually could afford to pay the higher rates.

The effect of the policies of the M.M.S. has been almost completely to undermine this traditional method of doctors adjusting their incomes to take care of inflationary tendencies. People in the higher income groups are in increasing numbers joining the M.M.S., and are thereby paying, not 125 to 150% of the average fee, but are receiving a service at 70 to 80% of the average fee. In addition, by consistently raising rates, the service has gone beyond the reach of the "marginal" economic groups, with growing pressures from these groups to institute a Governmental "free" medical service. In short, the tendencies of the M.M.S. have been to freeze medical incomes at a time when the greatest fluidity is desirable to counteract inflation. And secondly, a growing number of people in low income groups are unable to afford M.M.S. rates. Instead of answering the demand for medical care for marginal groups, the M.M.S. has seriously invaded the shrinking field of private practice, with results that, I believe, within the next three or four years, all of us will regret.

What Can Be Done?

It seems to me, Mr. Editor, that the direction we should take should be as follows:

1. We should go back to our original concept of the function of the M.M.S. in the community, that is, **to serve low income groups.** We should forget about ideas of making the Plan "solvent." This marginal economic group cannot possibly make any comprehensive plan solvent, and we should be agreed to render service to **this** group at a loss. We have always done so, and there is no reason why we cannot continue to do so, **providing that private practice is not infringed upon.** Furthermore, we can make a strong case to Governmental agencies that our loss in the provision of essential services to these marginal groups should be governmentally subsidized.

2. Since we shall be predicated to taking a loss on these groups, there should be a strict income restriction, say at $2,500.00 annually for a married man, at $1,800.00 annually for a single man. The onus of proving income levels should be left with the applicant.

I hope, Mr. Editor, that the points covered in this letter will be appreciated by your readers, and that some discussion may be initiated in your columns, in order that a motion covering the above points can be discussed at the next M.M.A. meeting.

I sincerely hope that nothing in the foregoing will be taken as criticism of the members of the executive boards of the M.M.S. Prepayment health plans generally are in a period of experiment. An objective attitude toward any experiment appreciates the value of trial and error. The M.M.S. has been fortunate in having the interest and time of a group of men who have always maintained an open mind to suggestions and criticisms. These men are deserving of our respect and our thanks.

Alan A. Klass, M.D.

October 11th, 1950.

Editor,
Manitoba Medical Review,
604 Medical Arts Bldg.,
Winnipeg, Manitoba.

Dear Sir:

Following the recent Annual Meeting of the M.M.A. there is a question in my mind as to the legal status of the present Executive Committee. I believe the matter to be important enough to be

brought before the members and therefore beg to have these facts published in the Review.

The chairman of the Nominating Committee stated that only he and one other member were present when nominations for the various offices were made. This two-man committee consulted with and received the approval of several other members of the Executive Committee but this does not make their selection a properly constitutional one because, according to our Constitution (Article VI, section d): "The Nominating Committee shall consist of the President of the M.M.A. as chairman, the two immediate Past Presidents, and one member from each District Society, whose name shall be forwarded to the President on notification of the date of the meeting of the Committee."

Further it is required by the Constitution (Article XI) that the report of the nominating committee be published in the Review one month prior to the Election. This was not done.

And although the Chairman did mention at the Annual Meeting that further nominations could be made from the floor he did not call for further nominations for each office, in their respective order, but only for a motion of acceptance of the slate as a whole.

I am not at all surprised that further nominations were not made and that no objections were raised at the time because of the small attendance. The opening of the meeting was delayed for some time until a quorum (15 members) could be obtained.

I believe that the members have the right to know in advance the names of those who have been nominated to the important task of running our business so that other candidates can be named if desirable. On the ballots was printed a notice to "mark your choice" but only one name was opposite each office. In previous years at least two candidates have been named for each position.

I am not criticising the choice of candidates but it seems to me that the election was not constitutional and that the new Executive Committee may not be legally representative of our Division. If that is true the implications are serious and we should make sure just where we stand.

OBITUARY

Dr. Alexander James Swan

The flag at the Medical Arts Building flew at half-mast in respect to Dr. Alexander James Swan who died at his home in Winnipeg on Sept. 27, aged 69. It might be said of him that he had two vocations, medicine and music and that in each he was successful.

Born at Greenock, Scotland, he came to Canada in 1903 and seven years later graduated from Manitoba Medical College. His practice at Binscarth was interrupted by the First World War in which he served as M.O. with the Cameron Highlanders of Winnipeg, No. 3 Canadian Casualty Clearing Station and No. 1 Canadian General Hospital. On returning to Canada he practised at MacGregor until 1921 when he moved to Winnipeg. After postgraduate work in London, Vienna and Philadelphia he resumed practice specializing in eye, ear, nose and throat. On the outbreak of the Second World War he re-enlisted with the rank of Major, R.C.A.M.C., and from 1944 to 1946 he was on the staff of Deer Lodge Military Hospital. He was a lecturer in the Medical Faculty of Manitoba University.

In 1933 he was secretary of the medical committee headed by Dr. E. S. Moorhead which was set up by the Winnipeg Medical Society to deal with the problem of providing medical care to indigents. On his retirement from this position he and Dr. Moorhead were honored at a dinner in the Fort Garry Hotel on April 27, 1934, given by their medical confreres.

Before coming to Canada he had been organist of a Greenock church. As a medical student his musical ability was much in demand and he served as organist at St. Paul's, Westminster and Crescent churches, later as organist and choir master of First Presbyterian Church, Winnipeg.

His wife predeceased him, but he leaves two brothers, Dr. R. R. Swan and Rev. J. A. Swan; two sisters, a son and two daughters.

ASSOCIATION PAGE

Reported by M. T. Macfarland, M.D.

Southern District Medical Society

Minutes of meeting of the Southern District Medical Society, held on Thursday, Oct. 26th, in the Carman General Hospital, at 3 p.m.

Present were: Drs. A. P. Warkentin, President, Winkler; J. P. Boreskie, Secretary, Gretna; J. G. Lohrenz and S. S. Toni, Altona; E. K. Cunningham and H. W. C. North, Carman; Wm. Karlinsky, Emerson; J. O. Boxall, Manitou; C. L. Blight, Miami; W. Colert and J. C. Menzies, Morden; J. C. Elias and J. S. Holowin, Morris; T. W. D. Miller, Roland; J. H. Boucher, St. Jean; D. W. Burgess, Treherne; C. W. Wiebe, Winkler; M. T. Macfarland, J. C. MacMaster, H. Morison, E. H. Whelpley and S. Vaisrub, Winnipeg.

Following a brief business session in which the President, Dr. A. P. Warkentin, Winkler, and the Secretary-Treasurer, Dr. J. P. Boreskie, Gretna, were re-elected for the ensuing year, and Dr. H. W. C. North, of Carman, was named representative from the Southern District Medical Society to the Manitoba Medical Association the Scientific Programme was presented.

Dr. H. Morison, of Winnipeg, spoke on "X-Ray Diagnosis of Gastro-Intestinal Lesions" (oral to anal), while Dr. S. Vaisrub reviewed "Some Recent Advances in Medicine," while introducing his audience to Psyche-Soma.

Dr. J. C. MacMaster, Medical Director, Manitoba Medical Service, opened the discussion period, which was adjourned while all partook of a delicious meal, which was served under the direction of the Matron, Dietitian and Nursing Staff of the Hospital. Discussion was resumed when the inner man had been satisfied, and a resolution was passed approving the plans outlined for expansion of the Manitoba Medical Service.

Dr. E. H. Whelpley, District Medical Officer, Department of Veterans' Affairs, Winnipeg, discussed problems relating to the medical treatment for Veterans in the Various Classifications, and Dr. Macfarland, Executive Secretary of the Association, outlined some of the recent trends in connection with the extension of voluntary prepaid medical plans into a Trans-Canada Service and recent notification from the Deputy Minister of Labor that hearings would be held with proposed changes in the Workmen's Compensation Act.

The afternoon weather was fine, the attendance exceeded that of previous years, and it is the intention that other meetings shall be held in the not-too-distant future.

Northwestern District Medical Society

Minutes of meeting of the Northwestern District Medical Society, held on Wednesday, September 27th, in the nurses' sitting room of the newly completed hospital at Roblin, at 3 p.m.

Present were: Drs. H. L. Edwards, Birtle; W. K. Hames, Kenton; C. D. Lees. Oak River; A. W. Hicks and W. A. Large, Roblin; T. I. Brownlee and T. W. Shaw, Russell; M. T. Macfarland, J. C. MacMaster, F. A. MacNeil, L. R. Rabson and E. H. Whelpley, Winnipeg.

Dr. F. A. MacNeil contributed a paper on "Hoarseness," while Dr. Rabson discussed "Full-thickness Skin Grafts for the Repair of Herniae."

Dr. J. C. MacMaster opened discussion in connection with the Manitoba Medical Service. Dr. E. H. Whelpley, District Medical Officer, Department of Veterans' Affairs, discussed his relation with the profession in relation to Veterans and Dr. M. T. Macfarland outlined recent developments and pleaded for a good turnout in connection with the forthcoming Annual Meeting of the Manitoba Medical Association, Royal Alexander Hotel, October 3rd to 5th.

A delicious dinner was served under the direction of the Matron, Dietitian and Nursing Staff.

On the return trip a stop was made at Birtle, where, at the Municipal Office, Mr. J. H. Kitching showed his fruit-bearing orange and lemon trees to a couple of doubting Thomases.

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COLLEGE OF PHYSICIANS AND SURGEONS OF MANITOBA

Executive Committee

Winnipeg, September 21, 1950.

A meeting of the Executive Committee was held at 8 o'clock p.m., on Thursday, September 21st, 1950, in the Medical Arts Club Rooms, Winnipeg.

Present: Dr. C. B. Stewart, Chairman; Dr. J. S. Poole, Dr. C. H. A. Walton, Dr. B. D. Best, Dr. Edward Johnson, President, ex-officio, and Dr. M. T. Macfarland, Registrar.

Business before the meeting was as follows:

Business Arising from Council Meeting May 23, 1950

A. Revision of By-laws

Notice of Motion was given at the May Council meeting accepting the amended by-laws with power to make any minor changes which might be suggested. The by-laws were given to the solicitor for opinion, who made the following suggestions:

(a) That paragraph 1.C. provide for the mailing of election material to honorary life members as well as to every duly registered practitioner since paragraph B states that honorary life members have the right to nominate and vote. The Committee were of the opinion that life members were duly registered practitioners. The Registrar was requested to ask Mr. Laidlaw whether there was some other reason for this change, otherwise it was agreed that it should be left as is.

(b) That paragraph 3 be changed by striking out the words "in the absence of either officer" and substituting therefor "in their absence." The committee agreed that the sentence should be changed to read: "The President, or Vice-President, or in their absence, the elected Chairman, shall preside at all meetings."

(c) That paragraph 18 be changed by striking out the last sentence "The Council may or shall order the Registrar to be properly bonded," and substituting therefor "the Registrar shall be properly bonded." Agreed.

(d) That paragraph 20 be changed so that there is a division between the quorum and the appointment of special committees, since these are two separate functions. Agreed.

(e) That in paragraph 29 the world "Registrar" should be changed to "Registration." Agreed.

(f) That in paragraph 29A it was not clear what the words "of any form" meant. The Committee agreed that the words were not necessary and should be struck out.

(g) That in paragraph 31 the word "Shall" should be inserted after the word "Signatures" in the first line of paragraph four, and after "Winnipeg" in the fourth line. Agreed.

(h) That in paragraph 45, By-law of the Gordon Bell Memorial, paragraph three should be checked with the original by-law. The Committee agreed that the fourth line of paragraph three should read "trust deed copied hereunder."

The Registrar explained that the committee appointed to revise the by-laws had changed by-law 29C. (c) since the old by-law stated that applications from Great Britain for registration by reciprocity, must be British subjects, who are on the British Register of the General Medical Council of Great Britain by virtue of being graduates of British institutions. He explained that the College had been interpreting the By-law to accept those who held the conjoint qualifications, M.R.C.S., England, L.R.C.P., London, who are not strictly graduates of British institutions, but take their training in hospitals, and then write examinations. The wording of the new by-law is to clarify the situation, so that there would be no question as to whether holders of the conjoint qualifications should be accepted for reciprocal registration.

The Committee agreed that the new By-law 29C. (c) be changed to read "when presented by British subjects who qualified in accepted medical schools in the United Kingdom."

B. Manitoba Flood Relief Fund

As instructed by the Council in May, the Registrar reported he had obtained the solicitor's opinion regarding a donation from the College to the Manitoba Flood Relief Fund. Mr. Laidlaw's opinion was that Section 91(2) of the Medical Act did not give the Council power to subscribe to a public fund such as the Manitoba Flood Relief Fund. Following receipt of this information the members of Council were ballotted by mail, the result of which was 10 for the donation and 8 against.

C. Reciprocal Relations With Other Medical Boards

(a) Medical Board of South Australia

The Registrar presented letter from the Medical Board of South Australia, advising that they recognize for the purpose of registration those qualifications listed in Table 1 of the Commonwealth List of the 1949 Medical Register of the General Medical Council, one of which is the C.P. & S. of Manitoba.

(b) South African Medical and Dental Council

The Registrar presented letter from the South African Medical and Dental Council advising that it appeared there was no possibility at the moment of proceeding with the establishment of reciprocity

in view of the terms of the Manitoba Medical Act, and the South African Medical, Dental and Pharmacy Act.

For information, the Registrar explained he had a doctor in the office during the week who was a graduate from the University of Witwatersrand, who was looking for a position. He is not eligible for reciprocal registration.

D. General Medical Council of Great Britain Certificates

The Registrar reported he had not received a direct reply to his letters inquiring concerning the necessity of certificates issued by the College for presentation to the General Medical Council, but had received a Bill of Amendments to the Medical Act of Great Britain. These amendments provide for the establishment of a year's hospital experience, clarification of those to whom reciprocal agreement is not applicable, holders of diplomas granted in the Republic of Ireland, and Medical Disciplinary Committee.

E. Registrars' Meeting in Halifax, June, 1950

The Registrar stated he appreciated the opportunity of attending the Registrar's meeting. He said there was fair representation from all but three of the provinces. Discussion was very informal and covered a number of points. Copy of the minutes had not yet been received from Dr. Scammell.

Topics discussed were as follows:

1. Is there a shortage of physicians in Canada?
2. Temporary licences.
3. Uniform licence fees.
4. Provincial licensure of physicians in the Federal Civil Service.
5. Enabling Certificates for foreign graduates seeking reciprocal registration elsewhere.
6. Interneship preceedings and a condition of licensure.
7. Canadian Citizenship and Enabling Certificate.
8. Law and Regulations pertaining to specialties in the Province of Quebec.
9. Movement of alien physicians who are Medical Council of Canada Licentiates from one province to another without apparent reason.
10. Permits from locum tenens pending Dominion Council results.
11. Should Medical Councils register technicians whose work is related to the practice of Medicine?
12. Indian students or graduates requesting enabling certificates.
13. The same as it applies to Chinese applicants.
14. Should selected members of the profession be invited to attend our meetings?
15. Should undergraduate students be used as internes?
16. Should senior students be allowed to assist general practitioners, and if so under what conditions?
17. Should more publicity be given through the Canadian Medical Association Committee on Public Relations re alien physicians?

F. Unlicensed Physicians in Manitoba

At the May Council Meeting this matter was left until after the Registrars' Meeting, but at a meeting of the Registration Committee on June 2, 1950, a motion was passed that a letter be forwarded by registered mail to each employee of the Dominion or Federal Governments stationed in Manitoba who is not registered, pointing out the relevant section of the Medical Act being contravened, with a copy to headquarters at Ottawa. A letter was sent to each unregistered physician in the Province stating that his name did not appear on the Registrar of physicians entitled to practise medicine in Manitoba under the terms of the Medical Act, an application form was enclosed. Replies were received to the effect that they were in the armed forces, in the R.C.A.M.C. licensed in Nova Scotia which does not collect annual fee, doing administrative work in the Command Medical office, or merely doing interne work in a hospital. The Registrar stated that the other provinces were working under much the same handicaps as Manitoba.

The Committee considered that all unlicensed physicians in the province, who were entitled to be registered under the Medical Act, should be registered, and it was strongly recommended that the Council discuss this problem and take some definite action. Some recent graduates are earning much less than employees of the Government and they must pay the full registration fee, while government employees may register temporarily at a nominal fee of $10.00. The Registrar presented correspondence with the Vital Statistics Department and the Regional Superintendent, Indian Health Services, concerning an unlicensed employee of the Indian Health Services who was signing certificates, as well as letter to the Director, Indian Health Services at Ottawa. He also pointed out that there were several Displaced Persons working for the Manitoba Government and hospitals who were not licensed. It was suggested that a test case should be made. Dr. ..... pointed out that there was a man at ....., who was not a graduate physician, and who was practising there. He had been prosecuted several times, paid the fine, but continues to practise. No other doctor will go in there to practise while he is there. It was considered that a person who was not registered, but who is practising, should be

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prosecuted before those who were government employees.

Motion: "THAT the Registrar bring to the October meeting of Council, a list of all physicians in the Province of Manitoba who are not registered with the College of Physicians and Surgeons of Manitoba, and that it be strongly recommended that Council discuss the matter of licensure regulations in order that the laws will be respected." Carried.

G. Complaint Re .....

This complaint was considered at a meeting of the Executive Committee on March 3, 1950, when the Registrar was requesting to secure further information from the parties concerned. The Registrar presented letters from Dr. ..... and Dr. ..... Mr. .....'s wife was a patient of ....., but was operated on by a doctor not connected with the group. He has paid both the surgeon's bill and a bill submitted by the ..... Group, but is complaining that the latter is an overcharge.

The Registrar was instructed to write Mr. ..... telling him that his complaint was considered by the Executive Committee, and that their considered opinion is that he should return to Dr. ..... and discuss his problem with him and the other doctors concerned.

H. Education Committee

Dr. ..... advised there would be a meeting of the Education Committee before the Council meeting in October to discuss Basic Licence and Specialist Register, and a report would be brought in at that time.

(a) A Basic Licence

The Registrar reported Dr. ..... had raised the question at the meeting of the Registrars and said that the College must lead the way in respect to a licence of this type. Discussion was very informal and no resolution was passed. He also stated that the matter had been referred by the C.M.A. to the various licensing bodies and medical colleges, and that an article in an edition of the Federation Bulletin stated that adding a 3-year interneship to the already lengthy course would be an admission by the medical schools that a man was not properly trained upon graduation. Dr. ..... stated that the Executive of the Faculty of Medicine felt that the suggestions were very impractical and would be very hard to implement. Dr. ..... said the matter was brought up at the meeting of the Medical Council of Canada but was not discussed.

(b) Specialist Register

There is provision in Section 38 of the Medical Act for registering qualifications received after graduation. British Columbia accepts the Royal College of Physicians and Surgeons of Canada as the criterion. In Alberta the University examines the qualifications and no physician advertises himself as a specialist unless he has the necessary certificate. Saskatchewan is not setting up a specialist register as such, but will accept those who have qualification and limit their practice and are prepared to give a certificate that they are limiting their work. Ontario and Quebec have specialist registers. It was pointed out that the M.M.S. and teaching hospitals have established a basis which might be adopted.

Motion: "THAT there is evident need of a specialist register in Manitoba as in other provinces, and that the Education Committee be asked to bring in a recommendation to Council." Carried.

I. Acknowledgment of Grant from Medical Library Committee

The solicitor's opinion was that the resolution passed by Council in May was valid and cheque was sent. A letter was presented from the Chairman of the Medical Library Committee acknowledging receipt of the cheque for Four Hundred Dollars ($400.00), and stating that the additional amount would be of great assistance in view of the rising cost of all medical publications, and in the increased use made of the library.

J. Discipline Committee

The Registrar advised he had communicated with the Chairman of the Discipline Committee who stated he would discuss the proposed by-law re disciplinary powers prior to the Council meeting. The Registrar also stated he had received a draft of a by-law to deal with lesser offences than those meriting erasure from the Register, from the College solicitor, who advised he wished to discuss the matter.

The Registrar was instructed to communicate with the Chairman of the Discipline Committee and urge him to have a meeting of the Committee before the Council meeting in October, and be prepared to bring in a report. It was pointed out that if no action was taken, the printing of the by-laws would be held up.

K. Re School of Nursing, University of Manitoba

At the May meeting of Council, a motion was passed urging the establishment of a School of Nursing in the University of Manitoba, and that at least two courses be offered, one in Public Health and the other in Instruction and Supervision. A reply was received from the Minister of Health and Public Welfare, advising that the matter had already been before the Department, and they have agreed to continue assistance to the University in regard to the present course for a

further period of two years. He stated further that the Government was of the opinion that a province with a population of 750,000 was in no position to carry courses in every type of professional and technical education at the university level, and that it was very doubtful if the province could maintain sufficient students to satisfy such a course. He advised that the other Western Provinves had been approached with the hope that some general agreement might be reached whereby one province would carry a satisfactory School of Nursing Course and other provinces would carry other technical and professional courses in the health field where needed. He said that they had found it very difficult to come to any satisfactory arrangement as provincial differences, the desire of local groups to maintain local autonomy, made co-operation impossible, but they were working to an end which he trusted would be satisfactory to all concerned.

L. Report of Representatives to the Cancer Institute

The Registrar reported that after very extended discussions between the Committee of the Institute and the M.M.A., a plan was arrived at in skeleton form—a four-way agreement between the Cancer Institute, Mantioba Medical Association, teaching hospitals and Medical College. Steps are being taken to appoint a teaching fellow or fellows on a full-time or part-time basis, to get the clinic in operation by October 1, 1950.

M. Report of Representative to Canadian Arthritis and Rheumatism Society

The Registrar reported that the Spring flood hindered the appeal for funds, and since that time there has been progress in the organization of the Society in this Province. At a meeting in the Medical College, representatives of the laity were added to the Board of Trustees, and by reorganization medical members became the Medical Advisory Committee, and the lay members became the Active Board of Directors, all in charge of the Executive Committee consisting of lay members and three medical men. The organization is now proceeding.

(To be Continued)

SOCIAL NEWS

Reported by K. Borthwick-Leslie, M.D.

Dr. J. N. Andrew, pioneer physician of the Minnedosa district, was the guest of honor at a banquet on his 82nd birthday. Drs. I. K. Gilhuly, partner of Dr. Andrew for 20 years, and Dr. J. C. Graham, newly appointed municipal doctor, paid tribute to senior confrere—an oil painting of Dr. Andrew was presented to the mayor, by the Jaycee President and will be the first picture to be hung in the new town hall. Congratulations and many more happy birthdays to Dr. Andrew.

♦

Belated congratulations to, with apologies for my neglect, Drs. Anaid and Matthew Kiernan on the birth of John Matthew, June 20, 1950. Anaid, rather haughtily, informs me that John is practically graduated from Junior High now, but I think she must have meant that Matt. Sr. had graduated from the P.G. course he attended at the U. of Minnesota recently. The study was of diagnostic and therapeutic application of X-rays in Neurology.

♦

Dr. and Mrs. Tom Dingle and family left recently for Great Britain and the Continent where Tom will do further Research Work in Therapeutic Radiology in Malignancy. Apparently in his Fellowship he has the choice of "where" to work so as yet we know not the destination, but wish them the best of everything. Much as we miss Tom at the Forlong Institute, we are fortunate in being able to welcome Dr. Marcus Marlborough from Great Britain to take over the work so efficiently and conscientiously.

♦

Was I ever pleasantly surprised one day a couple of weeks ago, to receive a call from our old friend, Dr. W. G. Campbell, thanking me for all the news he reads with pleasure in my "gossip" column. Thank you, Sir, expressions of appreciation are few and far between, but definitely appreciated.

♦

Dr. and Mrs. Russell Cleave announce the engagement of their only daughter, Iris June, to Carlo A. Gusberti, only son of Mr. and Mrs. Jules Gusberti. The marriage will take place Nov. 29, at 7.30 p.m., in the tea lounge, Royal Alexandra Hotel.

♦

Mr. and Mrs. C. G. Irish, Pictou, N.S., announce the engagement of their daughter, Marion, to Dr. Warren N. Bell, son of Dr. and Mrs. P. G. Bell, of Winnipeg and Victoria, B.C. The wedding is to be in Philadelphia, Pa.

On Sept. 2 Frances Youngman, daughter of Mr. and Mrs. Walter Youngman, was united in marriage to Dr. Geo. R. Burland, son of Mr. and Mrs. R. J. Burland, Victoria, B.C. Dr. Frank Gorman and Dr Duncan Govan were ushers at the ceremony. Dr. and Mrs. Burland are residing in Winnipeg.

♦

On Oct. 28, in St. Margaret's Anglican Church, Dorothy E. Hooker became the bride of James F. McGuinness. The bride is the daughter of Mr. and Mrs. Richard Hooker. The groom is the son of Dr. and Mrs. Fred McGuinness.

♦

Dr. and Mrs. G. M. Black (nee Beatrice Shaw), Portage la Prairie, announce the arrival of George Crawford Black, Oct. 5, at Portage.

♦

Dr. and Mrs. D. H. Booth, Bissett, Man., are happy to announce the birth of a son, Donald Malcolm, Oct. 25.

♦

Dr. and Mrs. E. A. Lewis (nee Monica Jean Adams), also announced the birth of a son, Oct. 15, at Richardson House, Boston, Mass.

♦

Dr. and Mrs. Rod Chadwick (nee Patricia Currie), happily announce the arrival of their second daughter, Susan Mei, Nov. 2, in Hong Kong. Congratulations, Rod, but what about some sons to uphold our traditions? I wonder if you are patronizing that buttonless, pinless diaper you once invented?

♦

Dr. and Mrs. James R. McDougall, Elm Creek, Man., announce their son, Stephen Bruce, Oct. 13.

♦

Dr. and Mrs. Allan D. Wolfe, Beverly Hills, Cal., are happy to announce the arrival of Thomas Aldin Wolfe, Sept. 10, at the Cedars of Lebanon Hospital.

♦

Dr. and Mrs. Otto Schmidt announce the birth of their second son, Arthur Arnold, Oct. 31. Otto says that apart from being a Hallowe'en baby, they've been cheated. Arthur was supposed to be a girl.

♦

May I extend my personal sympathy as well as that of the profession to the relatives and many friends of Dr. "Stu" Musgrove, on his tragic death. What a shocking loss of brains, personality, training and leadership, to our country.

♦

Get well quickly, ye editor—only heard a few days ago, that you were on the invalid list.

New Products, Cortone-Merck

Montreal, P.Q. — Cortisone is being made available today to many hospitals throughout Canada under the trademark "Cortone", it was announced today by Merck & Co. Limited, manufacturing chemists, who are now manufacturing Cortone in their Canadian plant at Valleyfield, Quebec. The first chemical synthesis of this important hormone was accomplished in the Merck Laboratories.

For a temporary period, Cortone will be supplied only to those hospitals having certain minimum facilities operated by trained technicians, and under the supervision of qualified physicians. Such hospitals are in all large and many small Canadian cities.

As stated in the directions which accompany each vial of Cortone, the drug is to be used, during the initial period of treatment, only in patients hospitalized in these institutions. This stipulation is considered essential at the present time for safe use of the product by Canadian Medical Authorities.

Following the fourth price reduction Cortone is now available in Canada at $120 per gram, which is approximately one-half the original price at the time of its initial release for clinical research about a year ago.

Steadily increasing production of Cortone and the accumulating knowledge concerning its use in rheumatoid arthritis, certain eye conditions that lead to blindness, certain asthmatic conditions and other diseases have made this limited distribution possible.

Although the complex chemical nature of this substance and the scarcity of raw materials have imposed unprecedented manufacturing difficulties, the supply of this drug is now more than sufficient to cover all the needs of clinical investigation and other research. When applied to the treatment of disease, unfortunately, present supplies and production of this compound are far short of the total required to treat all the patients with diseases for which Cortone is effective.

Since the first announcement of the dramatic results obtained at the Mayo Clinic, Cortone has been under active investigation by all Canadian Medical Schools and their associated hospitals, as well as by many research workers in the fundamental sciences, assisted by funds provided through the Canadian National Health Program. As a result of these studies, a large body of information has been accumulated on the biologic action and therapeutic uses of this medicinal agent.

Directory

Names and Phone Numbers of

Detailmen

Representing Review Advertisers in this issue, whose names are not listed under a business address.

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- G. J. Bowen — 44 559
- R. G. (Bud) Harman — 592 648
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Allen & Hanburys Co.
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Department of Health and Public Welfare

Comparisons Communicable Diseases — Manitoba (Whites and Indians)

DISEASES	1950		1949		Total	
	Aug. 13 to Sept. 9,'50	July 16 to Aug. 12,'50	Aug. 14 to Sept. 10,'49	July 17 to Aug. 13,'49	Jan. 1 to Sept. 9,'50	Jan. 2 to Sept. 10,'49
Anterior Poliomyelitis	1	3	46	18	7	88
Chickenpox	50	91	18	22	1022	931
Diphtheria	8	0	1	0	13	16
Diphtheria Carriers	0	0	1	1	0	4
Dysentery—Amoebic	0	0	0	0	1	0
Dysentery—Bacillary	11	68	5	0	106	13
Erysipelas	1	3	2	1	33	21
Encephalitis	1	0	23	6	1	29
Influenza	9	6	7	8	122	193
Measles	24	47	55	79	1072	4994
Measles—German	0	0	4	4	31	99
Meningococcal Meningitis	0	3	2	0	11	20
Mumps	20	28	9	21	272	900
Ophthalmia Neonatorum	0	1	1	0	1	1
Pneumonia—Lobar	11	17	7	3	160	145
Puerperal Fever	1	1	0	1	4	4
Scarlet Fever	17	11	8	6	222	78
Septic Sore Throat	0	3	3	1	26	28
Smallpox	0	0	0	0	0	0
Tetanus	0	0	0	0	1	2
Trachoma	0	0	0	0	0	1
Tuberculosis	68	101	78	67	577	940
Tularemia	0	5	0	0	5	0
Typhoid Fever	0	0	2	1	3	9
Typhoid Paratyphoid	0	0	0	1	0	1
Typhoid Carriers	0	0	1	1	2	4
Undulant Fever	1	9	4	1	24	15
Whooping Cough	65	20	8	8	180	153
Gonorrhoea	141	140	126	125	865	984
Syphilis	8	18	22	35	170	296
Diarrhoea and Enteritis, under 1 yr.	14	10	40	32	90	221

Four-Week Period August 13th to September 9th, 1950

DISEASES (White Cases Only) *Approximate population.	*779,000 Manitoba	*861,000 Saskatchewan	*3,825,000 Ontario	*2,952,000 Minnesota
Anterior Poliomyelitis	1	41	111	97
Chickenpox	50	34	260	—
Diarrhoea and Enteritis	14	—	—	—
Diphtheria	8	—	4	2
Dysentery—Amoebic	—	—	—	7
Dysentery—Bacillary	11	1	20	6
Encephalitis Epidemica	1	—	—	4
Erysipelas	1	—	3	—
Infectious Jaundice	—	—	10	—
Influenza	9	14	20	4
Measles	24	5	366	31
Measles—German	—	30	145	—
Meningitis Meningococcal	—	1	7	1
Mumps	20	100	216	—
Pneumonia Lobar	11	—	—	—
Puerperal Fever	1	—	—	—
Scarlet Fever	17	6	41	9
Septic Sore Throat	—	—	7	12
Tularemia	—	—	1	—
Tuberculosis	68	38	105	232
Typhoid Fever	—	2	4	—
Typh. Para-Typhoid	—	—	1	—
Typhoid Carrier	—	—	2	—
Undulant Fever	1	1	2	20
Whooping Cough	65	2	326	84
Gonorrhoea	141	—	264	—
Syphilis	8	—	84	—

DEATHS FROM REPORTABLE DISEASES

For the Month of August, 1950

Urban—Cancer, 39; Diphtheria, 1; Pneumonia (other forms), 5; Pneumonia of newborn, 5; Syphilis, 1; Tuberculosis, 3; Infectious Hepatitis, 1; Multiple Myeloma, 1; Leukemia and Aleukemia, 3; Diarrhoea of newborn, 1; Diarrhoea and Enteritis, 3. Other deaths under 1 year, 14. Other deaths over 1 year, 168. Stillbirths, 19. Total, 201.

Rural—Cancer, 27; Influenza, 1; Pneumonia Lobar (108, 107, 109), 1; Pneumonia (other forms), 5; Pneumonia of newborn, 1; Tuberculosis, 11; Whooping Cough, 2; Hodgkin's Disease, 1; Leukemia and Aleukemia, 3; Diarrhoea and Enteritis, 1. Other deaths under 1 year, 12. Other deaths over 1 year, 132. Stillbirths, 9. Total, 153.

Indians—Influenza, 1; Pneumonia (other forms), 1; Pneumonia of newborn, 2; Puerperal Septicaemia, 1; Tuberculosis, 1; Diarrhoea and Enteritis 1. Other deaths under 1 year, 4. Other deaths over 1 year, 4. Stillbirths, 3. Total, 11.

♦

Poliomyelitis—This has not been a "polio year."

Diphtheria—We continue to have a few cases reported. All children should be immunized and have booster doses regularly.

Dysentery, Bacillary still continues to show a high incidence. Good personal hygiene and sanitation should control this infection.

Venereal Diseases—Syphilis shows a marked decrease but Gonorrhoea is still too common. Every case treated and rendered non-infectious helps to prevent further spread. Contacts must be found, examined, and treated if infected.

Premarital Blood Tests

L. P. Lansdown, Provincial Laboratory
Department of Health and Public Welfare

It is apparent that certain provisions of the Marriage Act dealing with premarital serological tests for syphilis are not well known to the medical profession, and there is considerable confusion in the minds of some members as to the actual implications of the Act. Hardly a week goes by in the Provincial Laboratory in which some discussion concerning various points does not take place, nor where it is necessary to interpret some phase of the legislation.

Some of the questions asked are:

1. Is a premarital test invariably required?
2. What about positive tests? Is syphilis a bar to marriage?
3. To what extent can penalties under the legislation be enforced?
4. How many positives are obtained?
5. Is this positive test likely to be a so-called "false positive?"
6. How much does premarital blood testing cost?

Very briefly, certain of the salient features of the legislation will be reviewed, in an attempt to clarify the above points. In addition, the results of premarital blood tests to date will be shown. It is not, however, the object of this paper to discuss the meriits or otherwise of the procedure. The statistics have largely been obtained from the reports of the V.D. Control branch of the Division of Preventive Medical Services and I have been otherwise much assisted by Dr. Backman, the Director. It is hoped that further elucidation of doubtful features will be cleared up by discussion.

In April, 1946, an Act to amend the Marriage Act became law, which was further amended about a year later. This provided that (Act to amend the Marriage Act—7A (1)) "No person shall solemnize the ceremony of marriage between any two persons unless (a) each of the parties to the intended marriage has delivered to him a certificate in the form prescribed in regulations made by the Lieutenant-Governor-in-Council, which certificate shall be in accord with this section and shall be completed by a legally qualified medical practitioner." This, then, was the essential legislation necessitating premarital serological tests for syphilis. Certain requirements as to prescribed forms were laid down, with certain other conditions, most important of which are:

(1) The test to be made not more than 30 days prior to the marriage.

(2) Where the report shows that the applicant is, or may be infected with syphilis the practitioner shall hand and explain the written statement to the applicant. Under certain conditions the report may be sent by registered mail. However, it seems that the onus of dealing with a positive result is on the physician, who must satisfy himself that the applicant is fully aware of the situation.

(3) The sample shall be sent to a laboratory of the Dept. of Health and Public Welfare, and a serological test for syphilis shall be made. (There are no requirements as to the type of test to be performed).

It is required that the laboratory report to (a) The physician; (b) To the Director of Division of Preventive Medical Services. The latter then follows up positive results by a form letter with the following questions:

1. Has the Wassermann been repeated?
2. Is there a history of exposure?
3. Are there traces of primaries or secondaries?
4. Clinical diagnosis and type?
5. Was the premarital certificate issued?
6. Was marriage postponed?
7. Was patient placed on treatment?
8. If referred elsewhere, to whom?

In addition, by Regulations and further amendment provision is made for:

(1) Waiver.
(2) Designated areas.
(3) Non-residents of the Province.

Waiver

"On receipt of a written application the Minister may issue a permit authorizing a person to marry without obtaining a certificate as required by the Act." Certain conditions for the foregoing are prescribed:

(a) In the case of a death-bed marriage.

(b) Where an immediate marriage is necessary to legitimize the birth of a child which is likely to be born before a certificate can be obtained.

(c) Or in any other circumstances where it may appear to the Minister that the marriage should not be delayed long enough to obtain a certificate. It can thus be seen that wide discretionary powers are held by the Minister.

Designated Areas

These are defined, and are in the northern, inaccessible areas of the Province where much difficulty might be encountered in complying with the Act. It is obviously almost impossible in some locations to take and forward blood to a laboratory and obtain a result in the required time. This provision applied both to marriages performed in these areas and to residents of designated areas married outside of these areas.

Non-Residents

(1) Reports from accepted laboratories are presented to the Recorder of Vital Statistics who may then issue a certificate.

(2) If undue delay or hardship would be caused if (1) is complied with, the officiating clergyman may, if a report shows the person not to be infected with syphilis, solemnize the marriage and certify that the requirements dealing with ihs provision have been met.

From the preceding it is apparent:

(1) Wide discretionary powers are held by the Minister.

(2) A premarital certificate is not required in all marriages.

(2) A serological report from an accredited laboratory outside the province is acceptable. In this case a certificate is granted through the Recorder of Vital Statistics.

(4) Nothing in the Act obliges one or other intended parties to disclose the result of a premarital test, nor is there anything in the Act stating that a positive serological test per/se is a bar to marriage.

Penalties

(1) Under the Public Health Act (Man.) "No person knowing or having reason to believe or suspect that he is or may be infected with venereal disease, shall contract a marriage or have sexual intercourse or do or suffer any act which leads or which might lead to the infection with such disease of any other person." Liability to a fine not exceeding five hundred dollars.

(2) Section 307 of the Criminal Code of Canada "A person suffering from venereal disease in a communicable form, who knowingly or by culpable negligence communicates such venereal disease to any other person is guilty of an offence and liable, on conviction, to a fine or imprisonment or both, as set out in the aforesaid section of the Criminal Code."

Results of Premarital Serological Tests

Table I

PREMARITAL BLOOD TESTS

Year	1947	1948	1949	3 years
Tests	15,235	14,598	15,587	45,420
Positive	40	50	38	125
Positive per 1·000 tests	2.6	3.4	2.4	2.8

Table II

POSITIVE TESTS*

Year	1947	1948	1949	3 years
Total	40	50	38	128
Previously Known	13	15	7	35
New Cases	27	35	31	93
Congenital	1	2	1	4
Acquired	26	33	30	89

* i.e. Diagnosis of syphilis made.

Table III

DISPOSITION OF POSITIVES

	Total	Treated	%Treated
Known cases	35	14	40
Discoveries	93	82	88

MARRIAGES

	1947	1948	1949	Total
Proceeded with	23	37	26	86
Postponed	17	13	11	41

An analysis of these results show:

(1) Approximately 15,000 tests are performed yearly.

(2) Three per thousand individuals have been considered to have spyhilis, and of these 75% were discovered by means of the test. Considering both these and previously known cases about the same percentage (75) of cases have required treatment.

(3) Where a positive result has been obtained nearly 70% of the marriages have been proceeded with.

(4) False positives do not seem to present a serious problem. In 1949, out of 48 positive or doubtful tests only 7 results considered to be false positives were encountered.

Cost (Approximate Only)

Total tests	45,000
Cost per test	$2.50*
Total cost	$110,250.00
New cases discovered	93
Cost per new case discovered	$ 1,180.00

* Physician's fee $2.00
Laboratory costs, Keidal tube, postage and administration .50

Clinical Luncheons

1st Monday—Deer Lodge Hospital.
1st Tuesday—Municipal Hospital.
1st Thursday—Winnipeg General Hospital.
1st Friday—Children's Hospital.
2nd Tuesday—Misericordia Hospital.
2nd Thursday—St. Boniface Hospital.
2nd Friday—Victoria Hospital
3rd Tuesday—Grace Hospital.
3rd Thursday—Winnipeg General Hospital.
4th Tuesday—St. Joseph's Hospital.
4th Thursday—St. Boniface Hospital.

Time Table for Clinical Luncheons held during the Season in Greater Winnipeg Hospitals. The days in each month on which the luncheons are held are listed herewith. Visiting doctors are welcome.

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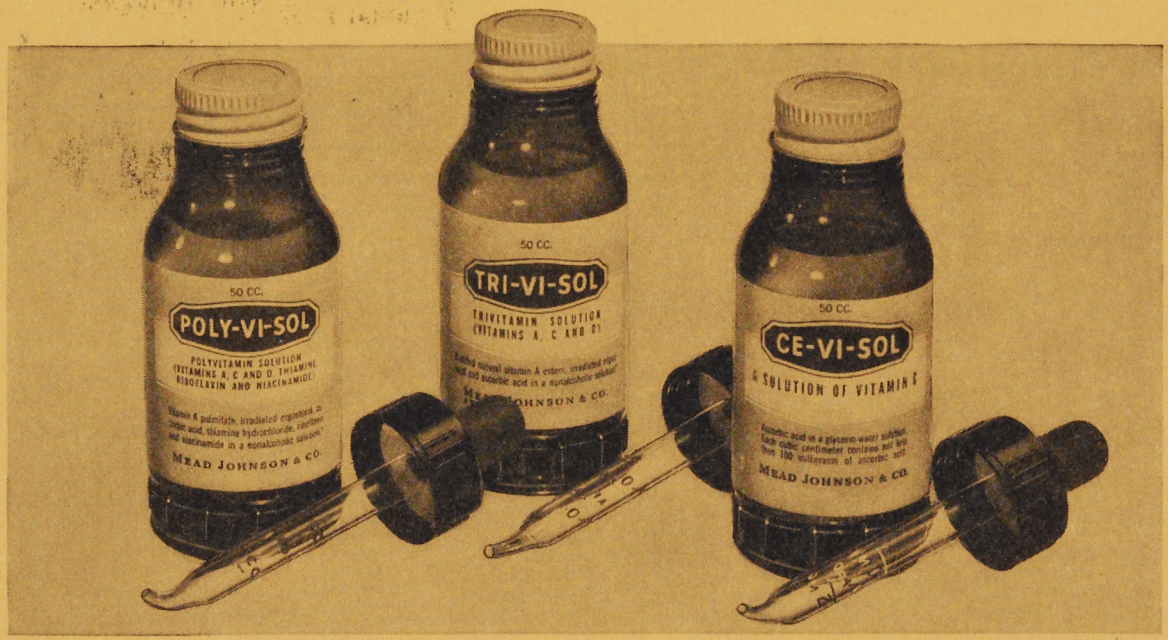

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